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Version: Version of Record

Link(s) to article on publisher's website:
https://www.fmhs.auckland.ac.nz/assets/fmhs/faculty/ahrg/docs/Youth12-gambling-report-final.pdf

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Youth2000 Survey Series

The Health and Wellbeing of New Zealand Secondary School Students in 2012

Youth Gambling

uniservices

Adolescent Health Research Group

THE UNIVERSITY OF AUCKLAND
FACULTY OF MEDICAL AND HEALTH SCIENCES

Title: Youth Gambling: The health and wellbeing of New Zealand secondary school students in 2012.

ISBN 978-0-473-26433-8 (paperback)

ISBN 978-0-473-26434-5 (electronic)

To be referenced as:
Rossen, F.V., Fleming, T., Lucassen, M., Denny, S., Peiris-John, R., Teevale, T., Crengle, S., Robinson, E., Bullen, P., Dyson, B., Fortune, S., Utter, J., Sheridan, J., Clark, T. & The Adolescent Health Research Group. (2013). The health and wellbeing of New Zealand secondary school students in 2012: Youth gambling. Auckland, New Zealand: The University of Auckland.

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Data analysis provided by Fiona Rossen and Elizabeth Robinson.
Data checking provided by Mathijs Lucassen, Toni Jardine and Elizabeth Robinson.
Oversight provided by Terryann Clark, Theresa Fleming and the AHRG.
The literature review in this report is based on the gambling report produced for the Youth'07 survey. As such we would like to acknowledge the input of Rachael Butler and Simon Denny.

Acknowledgements
A big thank you to:

The students and staff who participated in the survey. Without their patience and help the Youth'12 survey would not have been possible.

The Youth'12 project manager, Sarah Masson and Youth'12 administrator, Toni Jardine.

The expert advisory group for this report on youth gambling: Dean Adam, A/Prof Peter Adams, Dr. Maria Bellringer, Ruth Herd, A/Prof Elsie Ho, Dr. Tai Kake, Dr. Lana Perese, Dr. Amritha Sobrun-Maharaj, and Dr. Darren Walton.

The research team members who implemented the survey in participating schools. Their names are listed under 'Our Team' at www.youthresearch.auckland.ac.nz

The Youth07 team, led by Simon Denny, and the Youth2000 team, led by Peter Watson.

Professor Jeffrey Derevensky of McGill University who peer reviewed this report.

We gratefully acknowledge the support of the Ministry of Health (Problem Gambling, Mental Health Service Improvement, Sector Capability and Implementation) who commissioned this report.

The Youth'12 project was funded by the Ministries of Youth Development, Social Development, Health, Education and Justice, the Department of Labour, the Families Commission and the Alcohol Advisory Council of New Zealand. We would also like to acknowledge the support of Toshiba (Australia) Pty. Limited.

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Further publications by the AHRG are available at www.youthresearch.auckland.ac.nz

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EXECUTIVE SUMMARY

Gambling is a widely available activity in today's society and for some, gambling causes significant harm. There is limited data and very little information about youth gambling in New Zealand. This report presents findings on youth gambling from Youth'12, the third national health and wellbeing survey of secondary school students in New Zealand. The information presented in this report was provided by 8,500 students (Years 9 to 13; 13 to 17 years of age) who took part in the survey. The report also includes findings from the 2007 national survey (the first national survey took place in 2001 but this did not include questions about gambling). For the purpose of this study, gambling was defined as having bet precious things for money on an activity.

A significant minority of secondary school students are involved in gambling

Approximately 24% of students had gambled in the last 12 months and 10% had gambled in the last four weeks. This was higher amongst males. The most common gambling activities were "Bets with friends or family", "Instant Kiwi (scratchies)", and "Cards or coin games (e.g. poker)". Small, but statistically significant, decreases were observed in the amount of time and money that students spent on gambling from 2007 to 2012. In particular, the percentage of students who spent "$20 or more per week" on gambling decreased from 5% in 2007 to 3.6% in 2012 ($p=0.0005$). Similarly, a smaller proportion of students spent "30 minutes or more per day" on gambling in 2012 (2.3%) compared with 2007 (4.5%) ($p=0.0028$).

Attitudes, motivation and help seeking are mixed

Most students' who gamble usually did so with friends or with family members (especially younger students). Approximately one-third of students who had gambled (31%) indicated that gambling was not okay for people their age. The most common reasons for students gambling were to have fun, to win money, for a challenge, because they were bored, and for no particular reason (i.e. 'none of these responses'). Reasons for gambling were largely comparable across each wave of the survey. However, there appears to have been a decrease across the survey waves in the proportions of students who said that they gamble "to win money" (53% in 2007 and 32% in 2012) and "to get a buzz" (12% in 2007 and 4% in 2012).

Students were asked to specify who they would seek help from if they were concerned about their gambling. The most popular responses were parents, followed by friends, school guidance counsellors, other family members, and, the gambling helpline. 17% said they would not look for help.

Gambling appears to be causing problems for some students

Gambling in adolescence may predict later gambling and health problems and for some will already be causing difficulties. Among students who have gambled in the past 12 months:

- 4% usually spend $20 or more per week on gambling.
- 2% spend 30 minutes or more per day on gambling activities.
- Despite age restrictions on certain modes of gambling[1], some students participated in activities that are illegal for their age group. For example, a number of students aged 16 or less[2] reported gambling on the following modes over the past year: Instant Kiwi (n=529 students); Pub/club pokies (n=73 students); Casino tables/machines (n=57 students); TAB betting (n=138 students).
- Sixteen percent (approximately four percent of all secondary school students) reported being worried about the amount of time or money that they spend on gambling.
- Fourteen percent (approximately four percent of all secondary school students) had tried to cut down or give up gambling.
- In total, 11% reported one indicator of unhealthy gambling (i.e. they had participated in gambling for reasons that centred on escapism and/or loss of control, gambled several times a week or more, had spent $20 or more per week on gambling; gambled for one or more hours per day) and 5% reported two or more indicators.

There are identifiable risk factors and important disparities

There are significant differences in gambling behaviour by sex and socioeconomic status; males and students from more deprived neighbourhoods are more likely to be involved in gambling or be harmed by gambling. Rates of gambling in the last 12 months were similar amongst Māori, Pacific, Asian and New Zealand European students. However, Māori, Pacific, and Asian students generally reported higher rates of gambling related harm.

In multivariate analyses we found that students with signs of unhealthy gambling were more likely to have a family member who had done something because of gambling that could have got them in serious trouble (e.g. stealing); usually gamble with someone other than friends or family members; have more accepting attitudes towards gambling; have gambled on pub/club EGMs, casino EGMs or tables, or TAB betting in the last 12 months;

[1] The legal age for gambling in New Zealand varies according to the specific activity: Instant Kiwi – 18 years of age; Casino - 20 years of age; TAB betting – 18 years of age; Pub/Club gambling machines - 18 years of age.

[2] Students aged '17 or older' have not been included in these figures as some may be of a legal age to gamble on these modes. As such, the figures reported above may underestimate the actual numbers of minors illegally participating in each activity.

and, had attempted suicide in the last 12 months. We investigated a range of other risk and protective factors, but these did not show as significant in the multivariate analyses.

Conclusions and implications

Most students have limited engagement with gambling. However, a significant proportion experience gambling-related difficulties and/or have been negatively impacted due to the gambling behaviour of their families/whānau. Importantly many of these young people are worried about their gambling or have tried to cut down.

Our findings suggest that there should be interventions to:

- Support young people who are affected by adults in their family gambling;
- Support young people who are worried about their own gambling, want to cut down and/or are experiencing harmful effects of gambling; and,
- Ensure that restrictions on underage access to gambling (particularly those activities associated with an increased risk of harm such as casino gambling, TAB gambling, and non-casino EGMs) are monitored and enforced.

The data here also suggest that a focus on young people who are concerned about their own gambling and/or the impacts of gambling within their family/whānau may be more appropriate than population wide interventions. Additionally interventions will need to be effective for those in high deprivation communities and for Māori, Pacific, and Asian young people and their families.

This research indicates that Messerlian et al., (2005) public health approach to youth gambling has direct relevance to New Zealand. This approach outlines a structure to guide public health action that incorporates four public health goals: denormalisation; protection; prevention; and, harm reduction. The proposed framework entails a multi-level approach with actions required at the intra-/inter-personal, community, policy, and institutional levels. These goals have implications for all youth gambling stakeholders in New Zealand: health promotion workers, researchers, policy makers, members of the gambling industries, youth, their families/whānau, schools and communities. The current research has also identified that youth living in neighbourhoods with high levels of deprivation, and students who identify as Māori, Pacific and Asian, are disproportionately affected by gambling and unhealthy gambling. Māori, Pacific and Asian youth and their families/whānau require culturally responsive public health strategies and should be prioritised with regard to resource allocation for the delivery of public health initiatives.

1. INTRODUCTION AND BACKGROUND

Gambling has become a widely available activity in today's society (Hardoon & Derevensky, 2002; Turchi & Derevensky, 2006). In fact, many researchers "have noted that an entire generation has now grown up in an era when lottery and casino gambling is widely available and heavily advertised" (Volberg, Gupta, Griffiths, Ólason, & Delfabbro, 2010, p. 3). Evidence suggests that it has become a popular past-time not only for adults, but also for children and young people (Derevensky & Gupta, 2000; Gupta & Derevensky, 1998a; Hardoon & Derevensky, 2002; Jacobs, 2000; Splevins, Mireskandari, Clayton, & Blaszczynski, 2010; Turchi & Derevensky, 2006). Moreover, research indicates that gambling is one of the first risky activities that adolescents become involved with (i.e. they begin gambling prior to experimentation with alcohol, drugs, sexual behaviour) (Volberg, et al., 2010). Whilst for many youth involvement in gambling does not result in problematic behaviour, others go on to experience serious problems (Dickson, Derevensky, & Gupta, 2003).

A vast range of adolescent gambling prevalence studies that have been undertaken over the past 25 years, across different countries, and incorporating general populations as well as youth specifically. Rates of youth problem gambling have often been found to be higher than the rates identified for adults (Huang & Boyer, 2007; Shaffer & Hall, 1996; Welte, Barnes, Tidwell, & Hoffman, 2008; Williams, Page, Parke, & Rigbye, 2008), with some estimating them to be more than double those of adults (Gupta & Derevensky, 1998a; Jackson, Dowling, Thomas, Bond, & Patton, 2008; Lesieur, et al., 1991), or up to three times as high (Rigbye, 2010). However, it has also been recognised that there is far less research in this field compared to that which has explored other youth risk behaviours such as substance use (Blinn-Pike, Worthy, & Jonkman, 2010).

The gap in New Zealand-based information regarding prevalence of youth gambling has been identified previously (Bellringer, et al., 2003; Rossen, Tse, & Vaidya, 2009) and in 2003 it was recommended that research be undertaken to measure the involvement of New Zealand youth in gambling as well as associated factors and gambling-related problems (Bellringer, et al., 2003). A limited body of research has since employed various sources of data to consider youth gambling in New Zealand (e.g. Gray, 2010; Ministry of Health, 2008, 2009; Rossen, 2008; Rossen, Butler, & Denny, 2011).

An extremely valuable source of information on New Zealand youth is the University of Auckland's (UoA) National youth health and wellbeing surveys. To date, the UoA's Adolescent Health Research Group (AHRG) has completed three National youth health and wellbeing surveys.

The Youth2000 Survey Series aim to provide nationally representative information on the health and wellbeing of young people attending New Zealand secondary schools. The Survey Series includes a wide range of questions

about issues that contribute to the health and wellbeing of young people (such as substance use, injuries and violence, home and family) and allow researchers to take an ecological approach to identifying overall risk and protective factors in young people's lives. Youth'12, a survey of 8,500 secondary school students throughout New Zealand, is the most recent survey to be undertaken by the AHRG. The inclusion of gambling items in the Youth'12 survey provides a unique opportunity to examine the impacts of gambling and problem gambling on secondary school students throughout New Zealand within an ecological framework.

This report was commissioned by the Ministry of Health and begins with a comprehensive review of the local and international youth gambling literature, followed by an overview of the Youth2000 Survey Series and methodology for Youth'12. A thorough analysis of Youth'12 gambling items was undertaken with results being reported under the following eight categories (detailed results for each set of analyses are also provided in the appendices):

- Students and their own gambling (Section Five);
- Unhealthy gambling amongst students (Section Six);
- Attitudes and motivating factors towards gambling (Section Seven);
- The impacts of others' gambling on students (Section Eight); and,
- Risk and protective factors for student gambling (Section Nine);
- Gambling and Māori taitamariki in Aotearoa (Section 10);
- Gambling and Pacific young people in New Zealand (Section 11); and,
- Gambling and Asian young people in New Zealand (Section 12).

Finally, a discussion chapter provides an overview of the findings and implications. This report is part of a suite of information relating to Youth'12 and the Youth2000 Survey Series. Other reports, publications and information relating to the Youth2000 Survey Series can be found at www.youthresearch.auckland.ac.nz.

2. REVIEW OF LITERATURE

This literature review provides an up-to-date summary and overview of National and International youth gambling and problem gambling literature. This review has informed the development of this project's data analysis plan and interpretation of results. Topics of particular interest included:

1. Youth participation in gambling;
2. Likely impacts and consequences of gambling in young people;
3. Pathways and mechanisms for parental or familial gambling to affect young people; and,
4. Risk and resiliency factors likely to be relevant for exacerbating or minimising gambling and the impacts of gambling on young people.

2.1 Methods

Literature searches were performed using the following databases: Medline, Psychinfo, Scopus, Embase. In addition, a search for peer reviewed and grey literature was undertaken via Google Scholar and through accessing relevant websites (e.g. Government departments or gambling-related sites). Keywords utilised included youth and gambling and adolescent and gambling[3]. From the results, publications of relevance were selected and reviewed.

There is no standardised definition of 'young people' within the gambling field (Bellringer, et al., 2003). For the purpose of this review, young people were defined as being under the age of 25 years[4]. A number of terms such as youth, young people, and adolescents have been used throughout this document to reflect those terms used in the source literature. Similarly, a number of terms and definitions have been employed with regard to the classification of gambling behaviour. For example, at-risk, problem, potential pathological, probable pathological and pathological are all terms that have been cited within the youth gambling literature. Throughout this review, we have kept to the terminology of the original authors, where possible.

2.2 Key findings from the literature review

Gambling has become a widely available activity in today's society (Hardoon & Derevensky, 2002; Turchi & Derevensky, 2006). In fact, many researchers "have noted that an entire generation has now grown up in an era when lottery and casino gambling is widely available and heavily advertised" (Volberg, et al., 2010, p. 3). Evidence suggests that it has become a popular past-time not only for adults, but also for children and young people

[3] The literature search employed variations of these words.

[4] Literature for this age range was sought, where possible. In some cases, the original source categorised age ranges outside this (e.g. 18-30 years); where this occurred, this is indicated in the text.

(Derevensky & Gupta, 2000; R. Gupta & Derevensky, 1998a; Hardoon & Derevensky, 2002; Jacobs, 2000; Splevins, et al., 2010; Turchi & Derevensky, 2006). Moreover, research indicates that gambling is one of the first risky activities that adolescents become involved with (i.e. they begin gambling prior to experimentation with alcohol, drugs, sexual behaviour) (Volberg, et al., 2010). Whilst for many youth involvement in gambling does not result in problematic behaviour, others go on to experience serious problems (Dickson, et al., 2003).

It has been reported that the study of youth gambling is somewhat undeveloped (Blinn-Pike, et al., 2010; Derevensky & Gupta, 2004; Huang & Boyer, 2007; McGowan, Droessler, Nixon, & Grimshaw, 2000) with much of the literature to date focussed on the gambling behaviour of adults. This was apparent when undertaking this review, in that no youth gambling literature prior to 1985 was identified, an issue that has been highlighted elsewhere (Blinn-Pike, et al., 2010). It has also been recognised that there is far less research in this field compared to that which has explored other youth risk behaviours such as substance use (Blinn-Pike, et al., 2010).

A recent review of the research on adolescent gambling identified that the majority of research on youth gambling has been undertaken by a small group of researchers in Canada, the United States and Britain. Other key findings included that adolescent gambling research is: most commonly investigated with respect to alcohol use; not ethnically diverse; and, mostly quantitative, descriptive and empirically based (Blinn-Pike, et al., 2010). Others have highlighted that much of the research conducted to date has been concerned with the identification of the prevalence of youth gambling and problem gambling (Derevensky & Gupta, 2004; McGowan, et al., 2000), although more recently there is a growing body of research aimed at identifying the risk and protective factors associated with the behaviour (Jackson, et al., 2008; Volberg, et al., 2010). The influence of a young person's socio-economic status on problematic gambling behaviour has received limited attention in the literature (McGowan, et al., 2000; Welte, et al., 2008), as has religion (Welte, et al., 2008) and ethnicity (Blinn-Pike, et al., 2010; McGowan, et al., 2000; Rossen, 2008).

In the absence of extensive youth-specific data, knowledge of adult gambling is often applied to adolescent gamblers (McGowan, et al., 2000), particularly with regard to identification of problem gambling (Volberg, et al., 2010). This clearly has limitations, given the not insubstantial differences between the two groups in relation to patterns of gambling and response to the behaviour, as well as more general developmental differences (Volberg, et al., 2010). Moreover, whilst it is important to investigate problem gambling amongst young people in its own right – it is also interesting to note that adolescence may be an important period in the development of problem gambling later in life – as evident in studies amongst adult problem gamblers which have identified that most of these individuals began gambling at a young age (Shaffer & Hall, 2001; Volberg, et al., 2010; Winters, Stinchfield, Botzet, & Anderson, 2002).

2.2.1 Prevalence of youth gambling and problem gambling

There are a vast range of adolescent gambling prevalence studies that have been undertaken over the past 25 years, across different countries, and incorporating general populations as well as youth specifically. It is beyond the scope of this review to provide a detailed breakdown of these; instead this section presents an overview of rates of youth gambling and problem gambling and a selection of representative studies from various countries, incorporating different youth populations and a range of screening instruments.

A recent review of studies of young people's gambling in the UK, North America, Europe and Oceania found that levels of past year gambling amongst young people ranged from 20-90 percent (Volberg, et al., 2010). This range is similarly reflected in Table 1 which displays rates of gambling from various countries[5]. It has been estimated that between 4-8% of young people gamble at problem/pathological gambling levels (Hardoon & Derevensky, 2002; Jackson, et al., 2008) and a further 10-15% are at risk of developing a gambling problem (Shaffer & Hall, 1996; Turchi & Derevensky, 2006). It has also been suggested that youth gambling may be somewhat 'polarised' – with young people either abstaining from gambling altogether, or becoming involved in more problematic gambling – due to the lower levels of non-problem gamblers, but higher levels of non-gamblers and problem gamblers than adults (Huang & Boyer, 2007).

Rates of youth problem gambling have often been found to be higher than the rates identified for adults (Huang & Boyer, 2007; Shaffer & Hall, 1996; Welte, et al., 2008; Williams, et al., 2008), with some estimating them to be more than double those of adults (Gupta & Derevensky, 1998a; Jackson, et al., 2008; Lesieur, et al., 1991), or up to three times as high (Rigbye, 2010). In a Canadian survey of over 5000 young people aged 15-34 years, it was reported that youth were nearly 1.5 times as likely as adults to be either 'problem' or 'moderate-risk' gamblers. Other studies have identified rates of youth problem gambling as being 2-4 times higher (Blinn-Pike, et al., 2010; Delfabbro, Lahn, & Grabosky, 2005; Rina Gupta & Derevensky, 2000; Jackson, et al., 2008).

It is important to note that measurements of the prevalence of problem gambling amongst youth have produced differing results (Derevensky, Gupta, & Winters, 2003; Moodie & Finnigan, 2006; Valentine, 2008; Volberg, et al., 2010; Welte, et al., 2008). This may be due to differences in the definitions of problem gambling that have been utilised (Welte, et al., 2008) as well as geographical differences (Derevensky, et al., 2003; Fisher, 1999; Welte, et al., 2008), different instruments[6] being employed (Derevensky, et al., 2003; Jackson, et al., 2008; Rossen, 2008; Valentine, 2008; Volberg, et al., 2010) and the adoption of varying sampling procedures (Derevensky, et al., 2003;

[5] It should be noted that some of the gambling rates are based on 'past year' gambling, whereas others relate to 'lifetime' or 'last week' gambling behaviour.

[6] A range of screening instruments/tools have been utilised for the identification of problem gambling amongst young people. See Derevensky and Gupta (2006) and Blinn-Pike et al (2010) for further discussion of these.

Valentine, 2008). For example, researchers from the UK found that the prevalence of problem gambling was significantly higher amongst young people residing by the sea, compared to those living inland, a result that was attributed to the greater accessibility to fruit machines[7] via seaside arcades for these residents (Fisher, 1999). Other researchers have highlighted cross-cultural differences and the impact of different legislative frameworks in different countries (Moodie & Finnigan, 2006), as well as the inconsistent use of different terminology (Rossen, 2008). In spite of these issues, it has been claimed that the variability in youth problem gambling rates is much greater that that reported for adult problem gambling (Derevensky, et al., 2003).

There have also been issues raised around the rates of problem gambling amongst youth having been inflated (Derevensky, et al., 2003). This was investigated by Derevensky and colleagues (2003) who identified five core arguments utilised to support the proposition. These included: 1) if rates are as high as reported, it could be expected that more youth would be accessing treatment; 2) questions in the problem gambling screens may be misunderstood by youth; 3) given adult gamblers' greater access to 'high-stakes gambling', discrepancy in prevalence rates between adults and youth is 'illogical'; 4) overestimates may be due to scoring errors in instruments; 5) there is insufficient construct validity in adolescent screening instruments. Their 2003 paper discusses – and broadly discounts – these arguments and they conclude that whilst differences in prevalence rates may be due to a range of reasons (e.g. cultural factors), they are not a result of levels of problem gambling being over-represented (Derevensky, et al., 2003).

Table 1 provides a snapshot of prevalence rates from a range of international studies conducted in the UK, North America, New Zealand and Australia. As can be observed, these are reflective of the literature more broadly in that there is variance in the prevalence rates of gambling and problem gambling amongst young people across different countries.

[7] Fruit machines are a variant of an electronic gambling machine / pokie machine that is widely available in the UK.

Table 1: Prevalence of youth gambling and problem gambling across different countries

Authors	Country	Population	Instruments / Measures (problem / pathological gambling)	Prevalence (Gambling)	Prevalence Rates (problem / pathological gambling)
Raisamo et al., 2013	Finland	Adolescents 12-18 years (N=4,566)	• Unnamed gambling items	• 44% past six months	• n/a
Purdie et al., 2011	Australia	School-based students (10-17 years) and non-school- based youth (15-24 years) (N=5,685)	• DSM-IV-MR-J	• 77% past year	• 5% Problem gamblers • 16% At-risk gamblers
Gray, 2011	New Zealand	In-home survey of NZ residents (N=1,740 aged 15+ years)	• Problem Gambling Severity Index (PGSI)	• n/a [1]	• 3.4% Problem gamblers (15-24yrs)
Molde et al., 2009	Norway	High school students aged 16-19 years (N=1,351)	• Massachusetts Adolescent Gambling Screen (MAGS)	• n/a	• 1.9% Problem gamblers • 2.5% Pathological gamblers
Ipsos MORI, 2009	Great Britain	School students 12-15 years (N=8,958)	• DSM-IV-MR-J	• 21% last-week gambling	• 2% Problem gamblers
Ministry of Health, 2009	New Zealand	National household survey (N=12,488 aged 15+ years)	• Problem Gambling Severity Index (PGSI)	• 25.3% last-year gambling (15-17yrs)	• 0.4% Problem gamblers
Rossen, 2008	New Zealand	High school students aged 11-17 years (N=2,005)	• DSM-IV-MR-J	• 65.4% past year	• 3.8% Problem gamblers
Welte et al., 2008	US	Adolescents 14-21 years (N=2,274)	• SOGS-RA • Diagnostic Interview Schedule for pathological gambling	• 68% past year	• 2.1% Problem gamblers • 6.5% At-risk or problem gamblers
Huang and Boyer, 2007	Canada	Youth aged 15-24 years (N=5,666)	• The Canadian Problem Gambling Index	• 61% past year	• 2.22% Moderate-risk or problem gamblers • 3.55% Low-risk gamblers
Ministry of Health, 2006	New Zealand	National household survey (N=12,929 aged 15+ years)	• Unnamed gambling screen [2]	• 58.8% last-year gambling (15-24yrs)	• 1.5% Problem gamblers (15-24yrs)
Moodie and Finnigan, 2006	Scotland	Primary and secondary school students 11-16 years (N=2,043)	• DSM-IV-J	• 80% past year	• 9% Problem gamblers • 15.1% At-risk Gamblers
Ólason et al., 2006	Iceland	Primary school students 13-15 years (N=3,511)	• DSM-IV-MR-J • SOGS-RA	• 93% lifetime • 70% past year	• 1.9% Problem gamblers (DSM-IV-MR-J) • 2.8% Problem gamblers (SOGS-RA)
Ste-Marie et al., 2006	Canada	High school students 12-17 years (N=1,044)	• DSM-IV-MR-J	• 71% past year	• 4.5% Probable Pathological Gamblers • 9.7% At-risk Gamblers
Delfabbro et al., 2005	Australia	School students aged 11-19 years (N=926)	• DSM-IV-J • Victorian Gambling Screen (VGS)	• 70% past year	• 4.4% Problem gamblers (DSM-IV-J) • 3.3% Problem gamblers (VGS)
Fisher, 1999	Great Britain	School students aged 12-15 years (N=9,774)	• DSM-IV-MR-J	• n/a [1]	• 5.6% Problem gamblers
Gupta and Derevensky, 1998a	Canada	High school students 12-17 years (n=817)	• DSM-IV-J (4/9 criteria)	• 80.2% past year	• 4.7% Pathological Gamblers

Notes:

1. Overall prevalence rates cannot be reported as rates were only available in relation to specific gambling formats, e.g. 53% had 'ever played' cards for money.
2. It was reported that a new screen (that had not been validated) was utilised for this survey.

2.2.1.1 New Zealand

The gap in New Zealand-based information regarding prevalence of youth gambling has been identified previously (Bellringer, et al., 2003; Rossen, et al., 2009) and in 2003 it was recommended that research be undertaken to measure the involvement of New Zealand youth in gambling as well as associated factors and gambling-related problems (Bellringer, et al., 2003).

The first national survey of pathological gambling in this country, published in 1994, identified that 50% of those who were identified as problem or probable pathological gamblers (PPGs) were aged under 30 years, and the authors note that respondents in this age range had a much higher lifetime prevalence of probable pathological and problem gambling, compared to older respondents (Volberg & Abbott, 1994). Other, more recent, data suggest that gambling amongst young people is not commonplace in New Zealand, particularly when compared with older age groups (Department of Internal Affairs, 2008). In a study carried out in 2005, it was found that fewer teenagers (aged 15-19 years) participated in gambling than any other age group, and that they took part in less gambling activities, and were less likely to spend over $100 annually (28% compared to 55% of all participants) (Department of Internal Affairs, 2008).

Findings from the 2002/03 Health Survey in New Zealand revealed that 59% of young people aged 15-24 years had gambled in the 12 months previous (Ministry of Health, 2006). Whilst gambling rates were higher in older age groups (e.g. those aged 45-54 years), it was reported that participation rates for non-casino Electronic Gambling Machines (EGMs) were highest amongst 15-24 year olds. In terms of problem gambling, 1.2% of the overall sample was identified as problem gamblers, with slightly higher rates (1.5%) amongst the 15-24 age group. Moreover, younger gamblers comprised one fifth of problem gamblers. Whilst the risk of being a problem gambler was highest amongst adults aged 25-34, it was also noted as being 'relatively high' for young people in the sample (Ministry of Health, 2006).

In the subsequent 2006/07 Health Survey, it was reported that the prevalence of past-year gambling was 'fairly stable' across all age groups, although lower rates were identified amongst those aged 15-24 years (Ministry of Health, 2008). A quarter of 15-17 years olds had gambled in the previous 12 months (Ministry of Health, 2008, 2009) and one in six had gambled on Instant Kiwi or other scratch tickets (Ministry of Health, 2009). Moreover, the highest level of participation in both Instant Kiwi and non-casino EGMs was amongst 18-24 year olds. Overall, 60% of 18-24 year olds had participated in any gambling activity in the previous year, which was slightly lower than all older age groups (Ministry of Health, 2009). In terms of problem gambling, rates were lower amongst the 15-24 year age group (0.3%), compared to their older counterparts (Gray, 2010). It was concluded that participation by youth (defined as 15-17 years) in all forms of gambling except for Instant Kiwi was low – with

problem gambling rates also low in this age group (0.4% compared to 1.7% of the total adult population) (Ministry of Health, 2009). It was noted, however, that the research did not investigate participation in informal gambling activities – such as playing cards with friends – something that young people may participate in (Ministry of Health, 2009).

Other research from New Zealand found that whilst gambling was a widespread activity undertaken by young people (around one third had gambled by the age of ten), it was generally of low importance to them. As with youth in other countries, there was a preference for Lottery products and other 'informal' modes of gambling, and a substantial proportion of the sample (3.8% of all participants), satisfied the DSM-IV-MR-J problem gambling criteria (Rossen, 2008).

More recently, Rossen and colleagues (2011) analysed gambling-related data from Youth'07 – The Second National Health and Wellbeing Survey of New Zealand Secondary School Students. Less than one-tenth of the entire sample indicated that they had gambled in the past four weeks and students appeared to not typically spend much money or time on gambling activities. The most 'popular' (i.e. those that were endorsed the most) modes/activities that students had gambled on included bets with friends, Instant Kiwi (scratchies), cards or coins, and Lotto (including Strike, Powerball etc).

Both of these studies found that social connectedness fulfilled a protective function with regard to problem / unhealthy gambling: those gambling at problematic/unhealthy levels were less socially connected than their counterparts (Rossen, 2008; Rossen, et al., 2011).

2.2.1.2 Australia

Adolescent problem gambling rates have been reported as being between 3-5% in Australia (Delfabbro, et al., 2005; Paul Delfabbro & Thrupp, 2003; Moore & Ohtsuka, 1997; Purdie, et al., 2011). Whilst this is two times the level of adult problem gamblers in the country (Delfabbro, et al., 2005), it is lower than that reported in other nations such as Canada (Delfabbro, et al., 2005). Participation in gambling by youth has also been identified as being lower than the rates identified in international studies (Jackson, et al., 2008). Delfabbro and colleagues (2005) suggest that this may be due to the more limited access to gambling for Australian youth, given that many of the activities are restricted to venues such as casinos and hotels. Others have commented that further research examining gambling rates amongst young people is required, given the variation in levels of participation evident in Australian-based research (Jackson, et al., 2008).

2.2.1.3 United States of America and Canada

Historically, rates of problem/pathological gambling amongst North American youth (aged 13 to 20 years) have been estimated at between 4.4% and 7.4% (Shaffer & Hall, 1996). Similarly, an analysis of eight research studies undertaken by Gupta, Derevensky and colleagues in Canada, identified prevalence rates as between 3.4% and 6.7% of young people (Derevensky, et al., 2003). However, a more recent comprehensive review of the youth gambling literature reported that estimates of problem/pathological gambling for the period of 1998-2009, range between 1.9% and 3.0% for US youth and 2.2% to 5.0% for Canadian youth (Volberg, et al., 2010).

A review of the incidence of youth gambling in the United States and Canada between 1984 and 1999 identified that there was a 'substantial increase' in the number of young people reporting last year gambling behaviour, as well as an increase in the proportion who experienced serious problems related to their gambling (Jacobs, 2000). For example, in the US between 1984 and 1988, the mean level of participation in last year gambling by school age students was 45% (range: 20-86%); during the period 1989-1999 this increased to 66% (range: 52-71%) (Jacobs, 2000). A more recent telephone survey with a representative sample of US residents aged 14-21 years (n=2,274 respondents) identified that around two thirds (68%) had gambled in the previous year, and that 11% had done so more than two times per week. The prevalence of problem gambling in the overall sample was 2.1% (Welte, et al., 2008).

Recent research from Canada identified that more than 3 in 5 (61%) Canadian youth had gambled in the past year and that, compared to adults, there were higher rates of past year low-risk, moderate-risk, and problem gambling amongst this population group (Huang & Boyer, 2007). This study also identified differences between males and females, with the level of young women non-gamblers being significantly higher than that of males (43% compared with 35%). Adolescent females also had significantly lower prevalence of moderate-risk or problem gambling, compared to their male counterparts (Huang & Boyer, 2007).

2.2.1.4 United Kingdom

The most recent British gambling prevalence study was undertaken in 2010, and includes a sample of 16-24 year old young adults (Wardle, et al., 2011). Findings reveal gambling prevalence rates in this age group (68%) were broadly similar to those identified in 1999, and that the National Lottery Draw, scratch-cards, and slot machines were the most popular activities for younger gamblers. The authors note that whilst those aged 16-24 had a lower overall gambling prevalence rate compared to older age groups, they did have the second highest mean score with regard to annual gambling activities undertaken (2.3 compared to 2.5 for those aged 25-34 years). Moreover, younger adults aged 16-24 had the highest rates of low risk and moderate risk gambling, and were second only to those aged 25-34 in relation to problem gambling rates (which were reported as 1.9%) (Wardle, et al., 2011).

Recent research involving younger British youth (12-16 years) identified that approximately one-fifth had gambled in the last week. Overall, these results reveal a decrease in both rates of gambling and problem gambling compared with previous studies undertaken between 2005 and 2008 (Ipsos MORI, 2009, 2012).

In his review of more than 30 British based studies of youth gambling, Griffiths' (2009, cited in Volberg et al., 2010) concluded that:

- "At least two-thirds of adolescents have ever played slot machines;
- One third of adolescents have played slot machines in the last month;
- Up to 20% of adolescents are regular slot machine players (playing at least once a week) (9% in the latest 2009 national prevalence survey);
- Up to 6% of adolescents are probable pathological gamblers and/or have severe gambling-related difficulties (2% in 2009, down from 3.5% in 2006, 4.9% in 2000 and 5.4% in 1999." (p. 16).

2.2.1.5 Demographic Correlates

Prevalence of problem gambling amongst youth from different ethnic groups has not been widely investigated (Blinn-Pike, et al., 2010). In their recent review of the literature, Blinn-Pike et al highlighted that few studies either reported the ethnic composition of their samples and/or made ethnic-based comparisons within the data (Blinn-Pike, et al., 2010). Of the studies identified, they note surprise that, given the increase in the number of gambling venues on North American reservations, only three explored differences between American Indian and non-Indian adolescents (Blinn-Pike, et al., 2010). Others have asserted that whilst some research has identified higher rates of problem gambling amongst young people from ethnic communities, this finding is not universal (Welte, et al., 2008). However, following their recent review of the literature Volberg et al (2010) concluded that "while ethnic and indigenous youth are less likely than other youth to gamble, the former are more likely to gamble regularly when they do gamble and to experience problems" (p.22).

A study from the US found that 'Blacks', 'Asians' and 'Mixed/Unknown' were less likely to have gambled than 'whites' (with 'Asians' reporting the lowest gambling involvement). 'Blacks' and 'American Indians' were more likely to gamble more frequently than 'Whites', although there were no differences between all the ethnic groups in terms of levels of 'at risk/problem' or 'problem gambling' (Welte, et al., 2008). Similarly, another US study reported lower rates of gambling frequency amongst Asian American and Caucasian students (Stinchfield, 2000). It has been reported that amongst Native American samples, rates of youth problem and pathological gambling are generally higher than the general population (McGowan, et al., 2000).

Research from the UK has found no significant difference in the prevalence of problem gambling across different ethnic groups (Fisher, 1999; Ipsos MORI, 2009), although a recent British study of 12-15 year old school children

identified that whilst rates of gambling amongst Asian children were no higher than those from other ethnic backgrounds, they were more likely to be problem gamblers (Ipsos MORI, 2009).

In contrast, high rates of frequent and problem gambling amongst young people from indigenous backgrounds were reported in an Australian study (Delfabbro, et al., 2005). Whilst the authors note the need for further research in this area, they hypothesise that the findings may be indicative of the links between ethnicity and economic status, and subsequent involvement in gambling behaviour due to poverty and unemployment (Delfabbro, et al., 2005).

A number of research projects with New Zealand adults have highlighted the disproportionate effects of gambling for people of non-European descent (Abbott & Volberg, 1991; Abbott & Volberg, 2000; Australian Institute for Gambling Research Studies, 1998; Bellringer, Perese, Abbott, & Williams, 2006; Devlin, 2011; Guttenbeil-Po'uhila, Hand, Htay, & Tu'itahi, 2004; Perese, 2009; Perese, Bellringer, Williams, & Abbott, 2009; Thorne, Bellringer, Abbott, & Landon, 2012; Tse, et al., 2005; Tu'itahi, Guttenbeil-Po'uhila, Hand, & Htay, 2004). Similar findings have emerged from research with New Zealand youth. In particular, Māori and Pacific youth are at greater risk of experiencing problematic gambling than their NZ European/Pākehā peers (Rossen, 2008; Rossen, et al., 2011; Taufa, 2006). There has been limited research which has focussed on Asian peoples and gambling in this country, although it has been reported that this population – including international students – may be at greater risk of developing gambling-related problems (Bellringer, et al., 2003).

Others have identified the relationship between increased gambling rates and socio-economic status of young people from non-dominant ethnic groups (Zitzow, 1996). The need for further research into differences in gambling behaviour between various ethnic groups has been identified (Stinchfield, 2000) particularly given the potential differing cultural meaning ascribed to the behaviour (Stinchfield, 2000) and the potential for socio economic status to act as a confounding factor (Welte, et al., 2008).

Gender differences are evident in the youth gambling literature (Darling, Reeder, McGee, & Williams, 2006; Floros, Siomos, Fisoun, & Geroukalis, 2013; Molde, et al., 2009; Raisamo, Halme, Murto, & Lintonen, 2013; Rossen, 2008; Rossen, et al., 2011; Volberg, et al., 2010; Wood & Williams, 2009). Of note, male youth are more likely than their female counterparts to engage in gambling, a finding that is consistently reported across different countries (Blinn-Pike, et al., 2010; Delfabbro, et al., 2005; Hardoon, Derevensky, & Gupta, 2002; Huang & Boyer, 2007; Jacobs, 2000; Raisamo, et al., 2013; Ste-Marie, Derevensky, & Gupta, 2002; Stinchfield, 2000; Turchi & Derevensky, 2006), including New Zealand (Darling, et al., 2006; Rossen, 2008; Rossen, et al., 2011; Taufa, 2006). Males have also been identified as both gambling more frequently (Delfabbro, et al., 2005; Gupta & Derevensky, 1998a, 1998b; Hardoon, et al., 2002; Jacobs, 2000; Rossen, 2008; Rossen, et al., 2011) and on a wider range of

activities (Delfabbro, et al., 2005; Jacobs, 2000). In addition, there have been differences reported with regard to attitudes towards gambling, with females significantly more likely to perceive gambling as a risky behaviour without economic benefits (Splevins, et al., 2010). In line with this, (older) male adolescent gamblers have been identified as being more likely than their female peers to subscribe to the view that 'some people have skills or special approaches that can improve their chances of winning at gambling' (Rossen, et al., 2009). Although the evidence is sometimes contradictory, further gender related differences have been found with regard to preferred mode of gambling. Males, for example, are more likely to prefer informal gambling activities such as card games and betting with friends (Stinchfield, 2000; Wallisch, 1996), while females tend to prefer lotteries, card games, EGMs bingo and horse racing (Gupta & Derevensky, 1998a; Stinchfield, 2000; Wallisch, 1996). Research has also identified males being more attracted to sports betting than females (Gupta & Derevensky, 1998a; Jacobs, 2000).

In-depth research to explore the effects of gambling on the lives of young New Zealand-born Tongans has also highlighted gender differences (Taufa, 2006). This unpublished Master's dissertation examined the motives for gambling and the subsequent effects through semi-structured interviews with eight young people, aged 20-25 years. Gender differences were highlighted as a key finding of the research: males were introduced to gambling at an earlier age than females; males were introduced to gambling by friends, while family members introduced females to gambling; and, males were motivated to gamble so as to multiply income, females gambled to obtain money for household bills. Stress was identified as both a motive for gambling and an outcome of gambling (regardless of gender).

2.2.2 Attitudes towards gambling

A number of studies have explored young people's motivations for gambling (Gupta & Derevensky, 1998a; Hardoon, 2004; Moodie & Finnigan, 2006; Rossen, 2008; Splevins, et al., 2010; Valentine, 2008). A recent review of the literature suggested that young people participate in gambling for entertainment, to win money, because of the sensation of winning and the thrill of the game, or as a means to escape from stress and other problems (Valentine, 2008). A study from Scotland involving school students aged 11-16 years found that the most frequently reported reasons for gambling was to win money, followed by fun, excitement, boredom and risk taking (Moodie & Finnigan, 2006). Gambling may also be undertaken to avoid problems (Gupta & Derevensky, 1998a; Hardoon, 2004) or as a way of escaping depression or anxiety (Gupta & Derevensky, 1998a; Moodie & Finnigan, 2006).

In New Zealand, researchers have found similar motivations for gambling, with common reasons for young people taking part in gambling including: enjoyment, to win money, for excitement, to relieve boredom, and for a

challenge (Gray, 2010; Rossen, 2008; Rossen, et al., 2011). For instance, the 2006/2007 Gaming and Betting Activities Survey found that: approximately one-half (52%) of the young people surveyed said that winning money would be a reason to start gambling. Moreover, just under one-half (46%) said that losing money, or seeing others lose, would put people off gambling (Gray, 2010).

Splevins and colleagues (2010)[8] identified differences between different types of gamblers in relation to their motivations for gambling, with problem gamblers more likely to take part than non-problem gamblers to win money, or because they liked the challenge/risk (Splevins, et al., 2010).

Various forms of gambling may be perceived in different ways by young people (Moodie & Finnigan, 2006; Splevins, et al., 2010). For example, the National Lottery and scratch-cards were not considered forms of gambling by around one third of young people (gamblers and non-gamblers) who were surveyed in Scotland (Moodie & Finnigan, 2006). Different modes may also be linked with requiring different skill levels (Rossen, et al., 2009; Splevins, et al., 2010). A study of youth gamblers in New Zealand found that casino table games and internet gambling were viewed as involving a level of skill, whereas lottery products, bets with friends/family, housie/bingo, gaming/casino evenings, and telephone text games were not perceived by as many young people to be skill-based activities (Rossen, et al., 2009).

Differences have also been identified between problem and non-problem adolescent gamblers in relation to their beliefs about the level of skill involved in gambling (Rossen, et al., 2009; Splevins, et al., 2010). For example, a survey of secondary school students identified that problem gamblers were more likely to display an optimistic attitude towards gambling as a means of generating income (Splevins, et al., 2010). Overall, youth who perceive gambling as a skill-based activity – and who believe that they are 'good' at it – are more likely to gamble, to gamble heavily, and to be a problem gambler (Derevensky, Gupta, & Della Cioppa, 1996; Gupta & Derevensky, 1998a). In addition, they are more likely to gamble on the mode that they link with having a skill-based component (Carroll & Huxley, 1994; Griffiths, 1995; Rossen, 2008).

Research from New Zealand investigated young people's attitudes towards gambling, and found that they were slightly more likely to think of disadvantages rather than advantages for the community from raising money through gambling, and generally viewed the activity as doing 'more harm than good' (Rossen, et al., 2009). Despite this, the vast majority of gambling activities were viewed as having a social component by around half the sample, in that they offered people 'the opportunity for a good night or day out' (Rossen, et al., 2009). The 2006/2007 Gaming and Betting Activities Survey found that: approximately one-half (52%) of the young people

[8] The limitations of this study need to be acknowledged, including that it involved a small sample of problem gamblers drawn from a private school; thus generalisability to other populations is limited (Splevins et al, 2010).

surveyed said that winning money would be a reason to start gambling; and, just under one-half (46%) said that losing money, or seeing others lose, would put people off gambling (Gray, 2010).

2.2.3 Patterns of behaviour

Similar to adult problem gamblers, adolescent problem gamblers tend to play several games on a regular basis, although they may have their 'favourite' games (Fisher, 1999). They also spend significantly more money and time on the activity than their non-problem gambling peers (Fisher, 1999; Jacobs, 2000; Moodie & Finnigan, 2006; Raisamo, et al., 2013). It has been suggested that gambling problems amongst youth may 'wax and wane' over time (Petry, Weinstock, Morasco, & Ledgerwood, 2009; Slutske, Jackson, & Sher, 2003; Winters, et al., 2002) and resolve naturally (Slutske, et al., 2003), although others have argued that there is a lack of empirical evidence to support this claim (Derevensky, et al., 2003).

2.2.3.1 Young people and different gambling formats

Youth gamblers engage in a range of gambling activities, from informal modes such as betting amongst friends (Stinchfield, 2000; Turner, Macdonald, Bartoshuk, & Zangeneh, 2008; Wallisch, 1996) through to more formal activities such as fruit machines. EGMs and lottery based products (Department of Internal Affairs, 2008; Felsher, Derevensky, & Gupta, 2003; Fisher, 1999; Ipsos MORI, 2009; Rossen, et al., 2009; Shaffer, 2003; Stinchfield, 2001). Research has shown that access to this latter type of gambling remains accessible to young people, despite age-related restrictions (Fisher, 1999; Griffiths & Wood, 2007; Rossen, et al., 2011; Rossen, et al., 2009).

Involvement in different gambling activities has been shown to differ, depending on a young person's relationship with gambling (Delfabbro, et al., 2005; Jacobs, 2000). For example, researchers in Australia found that problem gamblers were significantly more likely to be involved with card games, racing, and sports betting, but not with scratch-cards, lotteries or bingo. It was also reported that problem gamblers participated in a wider range of gambling activities (Delfabbro, et al., 2005). Findings from a British survey indicate that youth gamblers were similar to the general population sample in that they comprised a large group of broadly similar gamblers who gamble across a range of activities – with a smaller subset involved in more technical forms of gambling such as spread betting, online betting and betting exchanges. However, the researchers concluded that adolescent gamblers were more likely to bet privately and gamble on slot machines, due to the accessibility of these types of gambling (Williams, et al., 2008). Research also suggests that gambling behaviour may change as young people progress developmentally (Rossen, et al., 2009), with accessible (but age-restricted) activities such as lottery products and EGMs becoming more attractive to older youth (Rossen, et al., 2009; Stinchfield, 2000; Volberg, et al., 2010; Winters, Stinchfield, & Kim, 1995).

Fruit machines have been identified as a popular form of gambling for some young people in the UK (Fisher, 1999; Huxley & Carroll, 1992; Moodie & Finnigan, 2006). A large survey found that three quarters of 12-15 year olds had played these machines at least once, and that more was spent on them than any other gambling activities undertaken by the young people (Fisher, 1999). A more recent survey of school pupils aged 11-16 years in Scotland found that fruit machines were by far the most popular form of gambling amongst all types of gamblers (non-problem, at-risk and problem) (Moodie & Finnigan, 2006). Studies from New Zealand have highlighted concern around youth access to casino and internet gambling, and EGMs given the increased associations of these modes with problem and pathological gambling (Department of Internal Affairs, 1995; Rossen, 2008; Rossen, et al., 2011).

Across different countries, it has been reported that *instant (scratch) lottery tickets* are a popular gambling activity amongst young people (Delfabbro, et al., 2005; Department of Internal Affairs, 2008; Jackson, et al., 2008; Ólason, Skarphedinsson, Jonsdottir, Mikaelsson, & Gretarsson, 2006; Rossen, 2008; Rossen, et al., 2011; Wood & Griffiths, 1998). This may be due to their easy accessibility (M. Griffiths, 2000) and the fact that they are often purchased by parents and given to their children (Felsher, et al., 2003; Kundu, et al., 2013; Wood & Griffiths, 1998). *Lottery tickets* have also been identified as being commonly bought by parents on behalf of their child (Fisher, 1999; Splevins, et al., 2010; Wood & Griffiths, 1998), with gambling on lotteries being one of the most common forms of gambling undertaken by young people (Department of Internal Affairs, 2008; Felsher, Derevensky, & Gupta, 2004a, 2004b; Gupta & Derevensky, 1998a; Jacobs, 2000; Rossen, 2008; Rossen, et al., 2011; Wardle, et al., 2011). The most recent British Gambling Prevalence Survey found that 42% of young people aged 16-24 years had participated in the National Lottery Draw in the last year (Wardle, et al., 2011) and a review of research from Canada and the US found that lottery games were favoured by young people (Jacobs, 2000). Jacobs (2000) also notes that there was an increase in the number of young people gambling following the introduction of state or provincial lotteries into an area.

Playing gambling games on the Internet – without any financial outlay – has been shown to be common amongst young people (Griffiths & Wood, 2007; Griffiths & Parke, 2010; Hardoon, et al., 2002; Ólason, et al., 2006), with a recent study identifying that of the 8% of the young people aged 12-15 years who had played a National Lottery game on the Internet, around one third had also played the 'free' games on offer (Griffiths & Wood, 2007). Indeed, young people have been identified as being particularly vulnerable to remote gambling opportunities (Floros, et al., 2013; Griffiths, Wardle, Orford, Sprotson, & Erens, 2008), not least because of their familiarity and skill in using and accessing new media (Griffiths & Parke, 2010). There are differences, however, evident in the literature with regard to young people's participation in *on-line gambling*, with reportage of past year rates varying somewhat (Griffiths & Parke, 2010). Secondary analysis of data from a recent British survey reveal that

prevalence of Internet gambling was highest amongst those in the 16-34 years age range, with 9% of 16-24 year olds having gambled on-line in the past year (Griffiths, et al., 2008). Another recent study of 11-16 year olds from the UK found that "thirteen percent of children say they have played *free* online gambling games; this is most often through Facebook. Seven per cent of children aged 11-15 say they have some experience of playing online games *for money,* although around half of this can be explained by children playing alongside parents, with parents' permission." (Ipsos MORI, 2012, p. 1-2). In contrast, Internet gambling was the least popular form of gambling amongst school students in an Australian study (only 5% of the sample had ever participated in this activity) (Delfabbro, et al., 2005). Research from New Zealand has also indicated that Internet-based gambling is not widely undertaken by young people (Rossen, et al., 2011), with other data indicating that this is due to a lack of interest or because it was considered a waste of time/money (Department of Internal Affairs, 2008). A recent review of adolescent gambling on the Internet concluded that despite the variations in reported participation rates, a small but important minority of adolescents do take part in this mode of gambling (Griffiths & Parke, 2010).

2.2.3.2 Social context of gambling

The social context of gambling was investigated as part of an Australian study on adolescent gambling and problem gambling (Delfabbro, et al., 2005). Respondents were asked to indicate the circumstances in which they gambled, with a summary of the results displayed in Table 2.

Table 2: The social context of gambling – who do adolescents gamble with?

	N	Alone n (%)	Parents n (%)	Siblings n (%)	Other relatives n (%)	Friends n (%)
Card games	418	55 (13.2)	28 (6.7)	46 (11.0)	33 (7.9)	150 (35.9)
Poker/EGMs	172	67 (39.0)	32 (18.6)	6 (3.5)	10 (5.8)	45 (26.2)
Racing	318	59 (18.6)	150 (47.2)	12 (3.8)	20 (6.3)	33 (10.4)
Sports betting	272	59 (21.7)	70 (25.7)	20 (7.4)	22 (8.1)	66 (24.3)
Lotteries	250	63 (25.2)	138 (55.2)	10 (4.0)	14 (5.6)	12 (4.8)
Scratchies	382	92 (24.1)	184 (48.2)	19 (5.0)	31 (8.1)	18 (4.7)
Internet	114	79 (69.3)	11 (9.6)	4 (3.5)	1 (0.9)	13 (11.4)

As can be observed from Table 2, the results indicate that the social contexts vary across the different forms of gambling. For example, whilst card games are more likely to be undertaken with friends, Internet gambling and

playing poker/gambling machines were predominantly a solo activity. Moreover, Lotteries, scratchies and racing were commonly undertaken with parents (Delfabbro, et al., 2005). This latter finding is in keeping with other research which has highlighted the role of parents in facilitating young people's access to gambling activities (Griffiths & Parke, 2010).

2.2.4 Impacts of problematic gambling for youth

The social and other costs of problem gambling experienced by young people have been widely reported in the literature. Indeed, research from Sweden found that whilst young people were less likely to gamble (and spent less money) than adults, they were more likely to experience gambling related problems (Volberg, et al., 2001). A summary of the key harms related to youth gambling identified within this review is provided below.

Young gamblers often engage in other addictive behaviours, such as alcohol and other substance use, smoking etc. (Blinn-Pike, et al., 2010; Dickson, et al., 2003; Fisher, 1999; Hardoon & Derevensky, 2002; Ólason, et al., 2006; Rossen, et al., 2011; Splevins, et al., 2010). Research from Canada found that youth with serious gambling problems also had more substance abuse problems, with the risk for these increasing with gambling severity (Dickson, et al., 2003). Involvement in Internet-based gambling by young people may carry additional health risks given that online gamblers are more likely to smoke cigarettes compared with non-Internet gamblers (Griffiths & Wood, 2007). Results from a British study indicated that online gamblers were also more likely than non-Internet gamblers to drink alcohol heavily in the preceding week (Griffiths & Wood, 2007). Beyond this, there is a lack of research on the relationship between adolescent problem gambling and physical health (Valentine, 2008).

Problem gambling may negatively impact young people's *mental health* (Gupta & Derevensky, 2000; Gupta & Derevensky, 1998b; Valentine, 2008). An exploration of the profile of adolescent gamblers seeking treatment identified that approximately 30% of clients met the criteria for clinical depression upon intake (Gupta & Derevensky, 2000). The direction of the relationship between gambling and depression has, however, been highlighted as an important issue to consider, given that it is not always known whether gambling has led people to a depressive state or acted as a driver for the initial development of the gambling behaviour (Gupta & Derevensky, 1998b).

Delinquency and crime has been identified as a potential negative impact of problem gambling (Blinn-Pike, et al., 2010; Clark & Walker, 2009; Fisher, 1999; Rina Gupta & Derevensky, 2000; R. Gupta & Derevensky, 1998a; Hardoon & Derevensky, 2002), although it has been asserted that the evidence for this relationship is less clear than other negative behaviours (Valentine, 2008). A study involving 6145 young adults[9] in the US identified links

[9] This included young adults aged 18-27 years, with the average age of respondents 22 years.

between gambling and criminal activity, particularly specific types of gambling such as cards, sports betting and horse racing; the research did not identify a relationship between lotto or casino game players and increased likelihood of committing a crime (Clark & Walker, 2009). Research which explored young people and fruit machine use found that some had stolen in order to pay for their gambling (Huxley & Carroll, 1992), and an earlier study involving 12-15 year olds found that nearly half had stolen from their family as a means of funding their gambling behaviour (Fisher, 1999).

Disruption to family and other relationships as a result of gambling has been reported in the literature (Blinn-Pike, et al., 2010; Fisher, 1999; Hardoon, et al., 2002; Hardoon & Derevensky, 2002; Splevins, et al., 2010). Friendships and other relationships with non-gambling peers may be replaced by gambling-related associates (Blinn-Pike, et al., 2010; Fortune, et al., 2013; Gupta & Derevensky, 2000). As with other addictive behaviours, when a young person's gambling behaviour intensifies or becomes problematic, they may become increasingly socially isolated (Hardoon, et al., 2002).

A correlation between *school difficulties* (e.g. truancy, reduced academic performance etc.) and problem gambling has been identified (Blinn-Pike, et al., 2010; Dickson, et al., 2008; Gupta & Derevensky, 2000; Gupta & Derevensky, 1998a; Hardoon & Derevensky, 2002; Huxley & Carroll, 1992; Lesieur, et al., 1991; Rossen, 2008; Splevins, et al., 2010), with adolescent gamblers missing school in order to participate in selected activities (Huxley & Carroll, 1992) or lacking in concentration due to their preoccupation with the behaviour (Gupta & Derevensky, 2000; Gupta & Derevensky, 1998a).

Young people may be negatively impacted *financially* as a result of their gambling behaviour (Fisher, 1999; Focal Research Consultants, 2008; Gupta & Derevensky, 2000; Huxley & Carroll, 1992). A survey of 12-15 year olds identified that around one third of problem gamblers had sold possessions to gamble or pay gambling debts and borrowed to gamble (more than once or twice) (Fisher, 1999), and research amongst adolescents seeking treatment for their gambling found that most clients are facing serious financial difficulties, including large debts (Gupta & Derevensky, 2000).

2.2.5 Social influences on youth gambling

The links between familial gambling – particularly that involving parents – and the development of adolescent problem gambling have been discussed in the literature (Delfabbro, et al., 2005; Dowling, et al., 2010; Williams, et al., 2008). Of note, young problematic gamblers widely report that one or more of their parents gamble (Darbyshire, et al., 2001b; Delfabbro, et al., 2005; Moodie & Finnigan, 2006; Rossen, 2008; Shead, et al., 2010; Vachon, et al., 2004). A study from the UK identified that adolescent problem gamblers were three times more likely than their non-problem gambling peers to report that they thought their parents gambled 'too much'. They

were also more likely to report that their parents approved or did not mind someone their age participating in gambling activities such as the National Lottery Draw, scratch-cards or fruit machines (Fisher, 1999). An Australian study found that problem gamblers were significantly more likely than non-problem gamblers to report that they had someone close to them with a gambling problem, with 90% of problem gamblers in the sample claiming that their parents gambled (Delfabbro, et al., 2005).

In a survey of school pupils in Scotland, parents were cited as the first person(s) that they had ever gambled with by a quarter of the sample, and in terms of on-going gambling behaviour around one third reported that they gambled with their parents (Moodie & Finnigan, 2006). Interestingly, however, the researchers note that parents are just one group that gamblers may learn from, and highlight that friends may have the greater impact – given that they are the people most often gambled with, and who are considered a bigger influence (Moodie & Finnigan, 2006). The literature also suggests that parental approval or tolerance of young people's gambling behaviour facilitates access to gambling activities (Fisher, 1999; Ipsos MORI, 2009; Kundu, et al., 2013; Ladouceur, et al., 1999; Rigbye, 2010). For example, research undertaken in Canada with young people aged 10-18 years found that parental knowledge of their child's lottery playing was commonplace – 84% of adolescents who reported purchasing any form of lottery ticket claimed that their parents were aware of the fact, and 94% stated that they were not afraid of getting caught (Felsher, et al., 2003). Moreover, three out of four lottery players reported that their parents had purchased scratch tickets for them. The researchers identified that an important factor in the initiation and on-going involvement in the lottery for female adolescents was parental participation in the activity (Felsher, et al., 2003). Moreover, in their study with 2,002 Connecticut high school students, Kundu et al (2013) found that the receipt of scratch-lottery tickets as gifts in childhood or adolescence was associated with an increased risk of problematic gambling.

It is interesting to note that the results of a British survey indicate that parents may be less likely to discuss gambling with their children, compared with other potentially risky behaviours such as smoking and drinking (Ipsos MORI, 2009). Whilst this finding is based on children's perceptions of their parents' likely behaviour, it is supported by other research indicating that parents are less concerned about gambling than other 'risky' behaviours (Campbell, Derevensky, Meerkamper, & Cutajar, 2011) and that few (5%) would attempt to prevent their child gambling (Ladouceur, Jacques, Ferland, & Giroux, 1998).

The findings outlined above correspond with research suggesting that while parents may be the dominant influence in the *development* of gambling behaviours, friends are more dominant in the *maintenance* of gambling behaviour throughout adolescence and adulthood (Fortune, et al., 2013; Gupta & Derevensky, 1997). Fortune et al (2013) comment on the importance of non-biological social relationships with regard to youth gambling,

drinking, and smoking behaviours. They suggest that the presence of other frequent and heavy gamblers may be associated with increased gambling behaviour due to the provision of partners and opportunities to gamble and/or because pathological gamblers may seek out individuals with similar interests.

2.2.5.1 Impacts of parental gambling on children and young people

Compared with research into the impacts of other addictive behaviours such as problematic alcohol use, there are limited data on how the children of problem gamblers are affected by their parents' behaviour (Darbyshire, Oster, & Carrig, 2001a; Darbyshire, et al., 2001b; Dowling, et al., 2010; Jacobs, et al., 1989; Vitaro, et al., 2008). This is despite a not insignificant number of children who grow up in a problem gambling family. For example, it has been estimated that around 174,000 children living in Australia may be directly affected by parental gambling (Darbyshire, et al., 2001b). Others have estimated that between five and seven people are negatively affected by each problem gambler (Adams, et al., 2004), with some extending this figure up to 17 (Lesieur, 1984).

Whilst there may be a somewhat small body of literature in this area, the research is clear in that the health and wellbeing of the children of problem gamblers is likely to be harmed due to their parents' behaviour (Abbott, Cramer, & Sherrets, 1995; Darbyshire, et al., 2001a, 2001b; Jacobs, et al., 1989; Vitaro, et al., 2008). A review of the literature on children who grow up in problem gambling families identified that they may be 'severely and negatively' affected, and that the impacts of gambling on children mirror those that have been identified in relation to parental drug or alcohol use (Darbyshire, et al., 2001a).

A wide range of social and health problems have been associated with parental problem gambling (Abbott, et al., 1995; Darbyshire, et al., 2001a), including financial impacts (Abbott, et al., 1995; Darbyshire, et al., 2001b) and exposure to ineffective or inconsistent parenting (Abbott, et al., 1995; Darbyshire, et al., 2001b; Vitaro, et al., 2008). The physical health of children may also be negatively affected (Abbott, et al., 1995; Dowling, et al., 2010) and includes involvement with 'health-threatening behaviour' (e.g. drug use) (Abbott, et al., 1995; Jacobs, et al., 1989). A review of the literature on this topic identified that physical health complaints of the children of problem gamblers included asthma, allergies, chronic headaches, and chronic gastrointestinal problems (Dowling, et al., 2010). As discussed in a previous section, the children of gamblers are more likely to develop gambling problems themselves (Abbott, et al., 1995; Darbyshire, et al., 2001b; Dowling, et al., 2010; Moodie & Finnigan, 2006; Vachon, et al., 2004), with robust evidence that they are 2-4 times more likely than the children of non-problem gamblers to do so (Dowling, et al., 2010). Conflict and a breakdown in relations may also be an outcome of parental gambling (Darbyshire, et al., 2001b; Jacobs, et al., 1989; Rossen, et al., 2009), with the children of gamblers reporting twice the incidence of 'broken homes' (e.g. via parental divorce, separation, or the death of a parent) (Jacobs, et al., 1989).

Links between parental gambling and youth mental health issues have been identified (Darbyshire, et al., 2001a, 2001b; Jacobs, et al., 1989; Vitaro, et al., 2008), including an increased risk of suicide (Jacobs, et al., 1989) and depressive feelings and moods (Jacobs, et al., 1989; Vitaro, et al., 2008). In a study which investigated the experiences of adolescents with a problem gambling parent, it was found that these young people were at greater risk than their classmates of psychosocial risk indicators (e.g. nearly half of the children of problem gamblers rated their overall quality of life as poorer than most, compared with 27% of their peers who reported no parental problem gambling) and anxiety, depressive mood and suicide risk (Jacobs, et al., 1989). Of note, young people in the study with one or more parents who gambled problematically reported nearly twice the incidence of suicide attempts. In considering these findings, it is worth highlighting that parents with gambling problems were also reported as having a number of 'companion' issues, including alcohol and other drug addiction, and over-eating behaviour. Thus, it is not possible to separate out the impact of the gambling activity from the effects of other problematic behaviour (e.g. that which was caused by alcoholism or drug use) (Jacobs, et al., 1989), an issue that has been highlighted a requiring further investigation (Dowling, et al., 2010). This limitation was also acknowledged by Vitaro and colleagues (2008) who sought to compare the depressive symptoms and conduct/anti-sociality problems in offspring of problem gamblers with children of parents without gambling problems – whilst also controlling for socio-demographic factors and other addictions or mental health problems in parents. The research found that children of problem gamblers were more likely to develop depressive symptoms and conduct problems than children with non-addicted parents, and that these continued (and sometimes increased) into young adulthood. Moreover, it was identified that ineffective parenting was responsible for the association between parental problem gambling and subsequent conduct/anti-sociality problems experienced by their children (Vitaro, et al., 2008).

A qualitative study undertaken in Australia sought to gain a deeper understanding of the experiences of young people living in a family where a parent or caregiver had a serious gambling problem (Darbyshire, et al., 2001b). Findings revealed a strong sense of loss experienced by the children – including both physical loss (e.g. a parent being unavailable due to leaving the home to go gambling) and existential loss (e.g. changing from a previously caring parent to someone with little time for their children). In addition, the research identified that children had lost trust in their parent due to their unreliable and deceptive behaviour, and experienced more material losses (e.g. financial, loss of the family home). In terms of future behaviour, the young people in the study either claimed they would never gamble or, if they did, they would know when to stop (Darbyshire, et al., 2001b). As the researchers note, this is interesting given the evidence which would suggest otherwise; notably, that the children of problem gamblers are at risk of developing their own gambling-related problems (Abbott, et al., 1995; Dickson, et al., 2002; Dowling, et al., 2010; Gupta & Derevensky, 1997; Lesieur & Klein, 1987; Vitaro, et al., 2008).

There were limited data identified within this review which explored the impact of maternal versus paternal gambling. One study highlighted concern around the increasing number of women developing gambling problems, given that they continue to be the primary caregiver within the family (Darbyshire, et al., 2001b). The authors also noted some differences in the nature and extent of loss experienced by children, depending on whether it was their mother or their father with the gambling problem (Darbyshire, et al., 2001b). As highlighted previously, the severity and frequency of the father's gambling problem was more closely linked to the young person's subsequent gambling (Vachon, et al., 2004). Indeed, a literature review undertaken in Australia found that paternal gambling increases the risk of the child going on to develop problematic gambling behaviour more than maternal problem gambling (Dowling, et al., 2010).

2.2.6 Risk factors

Risk factors may be described as criteria or characteristics associated with an individual that make it more likely that they will develop a problematic behaviour (Mrazek & Haggerty, 1994). A review of research in the socio-cultural domain of gaming and gambling identified that correlation research in relation to adolescent gambling is at an early stage of development (McGowan, et al., 2000). Others have highlighted the need for on-going work in this area to help prevent problem gambling amongst youth, and to ensure that prevalence research does not dominate the field (Derevensky, et al., 2003).

The literature consistently suggests that problem gambling in adolescence is associated with an array of pre-existing problems (Gupta & Derevensky, 2000; Hardoon, et al., 2002), with gambling often undertaken as an attempt to manage or resolve these underlying issues (Gupta & Derevensky, 2000; Ste-Marie, et al., 2002). Many of the risk factors associated with gambling may be observed in other potentially harmful youth behaviours, such as substance misuse (Derevensky, et al., 2003; Shead, Derevensky, & Gupta, 2010). It has also been highlighted that the risk factors for problem gambling differ between males and females (Gupta & Derevensky, 1998b; Jackson, et al., 2008; Moore & Ohtsuka, 1997; Stinchfield, 2000). Research involving school students in Australia, for example, found that the key predictors for greater gambling involvement for males were other antisocial and risk-taking behaviours; for females, they were dissatisfaction with peers and school connectedness (Jackson, et al., 2008).

Based upon research which was conducted in England and Wales, involving a sample of nearly 10,000 young people aged 12-15 years, the following table lists a range of risk factors which were described as being useful predictors of adolescent problem gambling (Fisher, 1999).

Table 3: Predictors of youth problem gambling

1. Living at the seaside
2. Being male
3. Feels bad about amount of alcohol drunk
4. Has a parent who gambles "too much"
5. Has a parent who gambled on fruit machines last week
6. Has a parent who gambled on National Lottery scratch-cards last week
7. Has parents who approve or don't mind if their child gambles
8. Has misused dinner money (past year)
9. Has stolen from family (past year)
10. Has stolen from outside the family (past year)

As can be observed in Table 3 above, several of the risk factors are concerned with parental gambling behaviour and attitudes. Other research has identified anxiety and risk propensity, being male, academic difficulties, and knowing a significant other (including a sibling or friend) with a substance use problem, as being key predictors of both at-risk and probable pathological gambling (Dickson, Derevensky, & Gupta, 2008). Hardoon and colleagues (2002) identified a set of predictor variables which they claimed led to problem gambling; these included having family problems, conduct problems, being addicted to drugs or alcohol, and being male. A summary of the key risk factors for problem gambling amongst youth, as identified as part of this review, is presented below.

- *Demographic characteristics:*
    - *Gender:* Evidence suggests that male youth are more likely than females both to gamble – and to develop problematic gambling behaviours (Blinn-Pike, et al., 2010; Delfabbro, et al., 2005; Hardoon, et al., 2002; Huang & Boyer, 2007; Jackson, et al., 2008; Jacobs, 2000; Molde, et al., 2009; Moodie & Finnigan, 2006; Purdie, et al., 2011; Raisamo, et al., 2013; Rossen, 2008; Rossen, et al., 2011; Ste-Marie, et al., 2002; Stinchfield, 2000; Turchi & Derevensky, 2006). A study from Canada found that, amongst last year adolescent gamblers, young men were three times as likely as their female counterparts to be either problem or moderate-risk gamblers (Huang & Boyer, 2007). Other research has reported males being five times more likely to be classified as problem/pathological gamblers (Hardoon, et al., 2002).
    - *Ethnicity and socioeconomic status:* While a number of studies have found no relationship between ethnicity and youth problem gambling (Carlson & Moore, 1998; Fisher, 1999), a substantial number have found that, as with adults, adolescents from indigenous and other ethnic groups and those living in neighbourhoods with higher levels of socioeconomic deprivation are significantly more likely to gamble and to exhibit problem gambling behaviour (Delfabbro, et al., 2005; Lesieur et al., 1991; Rossen, 2008; Rossen, et al., 2011; Shead et al., 2010; Taufa, 2006; Volberg et al., 2010; Wallisch, 1996; Welte, et al., 2008; Zitzow, 1996).

- *Age of the gambler:* Amongst adolescent male gamblers, for example, it has been shown that the severity of problem gambling-related behaviours increases with age (Dickson, et al., 2003; Ste-Marie, et al., 2002; Stinchfield, 2000).

- *Parental involvement in gambling behaviour* (Buchta, 1995; Darbyshire, Oster, & Carrig, 2001b; P. Delfabbro, et al., 2005; Fisher, 1999; K. K. Hardoon & Derevensky, 2002; Moodie & Finnigan, 2006; Rossen, 2008; Shead, et al., 2010; Turchi & Derevensky, 2006; Vachon, Vitaro, Wanner, & Tremblay, 2004; Volberg, et al., 2010; Williams, et al., 2008). Research from the UK identified a range of factors relating to parental behaviour that increased the odds of a child becoming a problematic gambler. These included having a parent who: gambles too much; approves or does not mind if their child gambles; has gambled on fruit machines during the past week; and, has gambled on National Lottery scratch-cards during the past week (Fisher, 1999). Other research has identified that the frequency of gambling amongst young people is linked to parental gambling frequency – and that the severity of gambling problems are related to the father's severity of gambling (Vachon, et al., 2004). Overall, the research indicates that the children of problematic gamblers are 2-4 times more likely than the children of non-gamblers, to develop gambling-related problems themselves (Dowling, Jackson, Thomas, & Frydenberg, 2010).
- *Early onset of gambling* (Huxley & Carroll, 1992; McGowan, et al., 2000; Rossen, 2008; Volberg, Abbott, Ronnberg, & Munck, 2001; Wallisch, 1996). People who start gambling at an earlier stage in their life are more likely to develop (more severe) gambling problems. For example, research from Sweden identified that whilst the mean age of gambling initiation for non-problem gamblers was 20 years, for problem gamblers this was significantly younger, at 15.6 years (Volberg, et al., 2001).
- *Personality factors* (e.g. anxiety, risk propensity) (Dickson, et al., 2003; Dickson, et al., 2008; Gupta & Derevensky, 1997; Moodie & Finnigan, 2006; Nower, 2001; Ste-Marie, et al., 2002). A survey of high school students identified that PPGs indicated the highest levels of anxiety and social stress, and the researchers concluded that there was preliminary support for the premise that young people engage in gambling behaviours as a means of self-medication in order to alleviate anxiety resulting from negative life events (Ste-Marie, et al., 2002). Other research has reported a link between gambling and impulsivity (Moodie & Finnigan, 2006), and participating in gambling as a means of escaping anxiety (Moodie & Finnigan, 2006).
- *Emotional/mental state:* depression and suicide attempts have been found to co-exist with adolescent gambling (Gupta & Derevensky, 1998b; Ladouceur, Dube, & Bujold, 1994; Lesieur, et al., 1991; Molde, et al., 2009; Rossen, et al., 2011; Wallisch, 1993), and youth gamblers have been found to have lower self-esteem (Gupta & Derevensky, 1998b; Purdie, et al., 2011) and higher rates of depression (Gupta & Derevensky,

1998a). A study from Canada found that a significantly greater proportion of PPGs were assessed as having social, emotional and behaviour problems at clinical levels (Hardoon, et al., 2002).

- *School-related problems:* a relationship between poor academic performance and other school problems, and youth problem gambling has been widely identified in the literature (Dickson, et al., 2003; Dickson, et al., 2008; Hardoon, 2004; Robert Ladouceur, Boudreault, Jacques, & Vitaro, 1999; Lesieur & Klein, 1987; Rossen, 2008). Research undertaken in Canada found that both PPGs and at-risk gamblers were significantly less likely than non-gamblers and social gamblers to report being highly connected to their school (Dickson, et al., 2008).
- *Substance use* (Dickson, et al., 2003; Dickson, et al., 2008; Fisher, 1999; Goldstein, et al., 2013; Griffiths & Wood, 2000; Hardoon, 2004; Molde, et al., 2009; Moodie & Finnigan, 2006; Rossen, 2008; Rossen, et al., 2011; Stinchfield, 2000). One of the strongest correlates for gambling amongst public school students in America (including both males and females) was alcohol use (Stinchfield, 2000). Having friends with substance use problems is also correlated with youth problem gambling (Dickson, et al., 2008; Hardoon, et al., 2002), as is having a family member with a drug and/or alcohol problem (Hardoon, et al., 2002).
- *Anti-social and criminal behaviour* have been identified as a risk factor for youth (Griffiths & Wood, 2000;. Gupta & Derevensky, 1998a; Shead, et al., 2010; Stinchfield, 2000; Winters, Stinchfield, & Fulkerson, 1993) and include, for example, a history of 'delinquency' (Goldstein, et al., 2013; Griffiths & Wood, 2000; Purdie, et al., 2011;. Winters, et al., 1993). Exposure to violence, including peer and dating violence and violence at a community level has also been associated with an increased risk of problem gambling (Goldstein, et al., 2013).
- *Accessibility to gambling:* at a community level, accessibility of gambling opportunities is a clear risk factor (Brezing, Derevensky, & Potenza, 2010; Felsher, et al., 2004b; Hardoon & Derevensky, 2002; Jacobs, 2000; Shead, et al., 2010) although the research is inconclusive in relation to how this impacts on rates of gambling (Shead, et al., 2010).
- *Attitudes towards gambling:* research has identified that particular attitudes towards gambling may increase a young person's likelihood of developing problematic gambling behaviour (Delfabbro, Lahn, & Grabosky, 2006; Derevensky & Gupta, 2004; Moore & Ohtsuka, 1999; Purdie, et al., 2011; Rossen, 2008; Shead, et al., 2010; Wallisch, 1996). This may include a lack of understanding of the risks associated with the behaviour, and a belief of some level of control over the outcomes (Delfabbro, et al., 2006; Wallisch, 1996). In her study of secondary school students in New Zealand, for example, Rossen (2008) found that those with a more liberal attitude towards gambling were more likely to participate in gambling activities – and those participants who thought that performance on EGMs could be improved with practice, or rated themselves as better at gambling than others, were at greater risk of gambling problematically.

As can be observed above, the majority of research to date has focused on demographic and behavioural correlates of youth gambling, with limited analysis of the attitudinal characteristics of problem gamblers (Shead, et al., 2010). Given links between problem gambling and positive attitudes towards gambling (Wallisch, 1996) the importance of investigating how gambling-related thoughts develop has been highlighted (Shead, et al., 2010). In particular, this is seen to have the potential to improve prevention efforts which seek to challenge these attitudes before they become fully embedded (Shead, et al., 2010).

2.2.7 Protective factors

Despite the presence of known risk factors, it is interesting to note that not all young people experience gambling-related or other problems in their lives (Lussier, Derevensky, Gupta, Bergevin, & Ellenbogen, 2007; Vitaro, Wanner, Brendgen, & Tremblay, 2008). Vitaro and colleagues (2008) for example reported that whilst some children of problem gamblers experienced severe adjustment problems, others did not (although the study did not explore potential moderators in this regard). Others have highlighted that in spite of a number of risk factors being present, some youth do not develop problematic gambling behaviour (Lussier, et al., 2007); this, therefore, raises issues around what factors may protect young people against this happening. Protective factors for youth problem gambling have been described as those which are associated with less dysfunction, work to minimise the effects of the behaviour, or prevent the occurrence of the risk factor (Dickson, et al., 2003). More simply, they may also be described as features which decrease an individual's likelihood of developing problematic gambling behaviour (Dickson, et al., 2003).

Despite evidence of some recent research being undertaken on this topic (Dickson, et al., 2003; Dickson, et al., 2008; Dickson, 2006; Goldstein, et al., 2013; Lussier, et al., 2007; Rossen, 2008), there have been few studies which have investigated protective factors for youth with regard to problem gambling (Brezing, et al., 2010; L. Dickson, et al., 2003; Lussier, et al., 2007; Rossen, 2008; Shead, et al., 2010). In the absence of gambling-specific data, it has been hypothesised that protective factors which have been identified in other youth problem behaviours (e.g. substance misuse) are also likely to have application to the youth gambling arena (Brezing, et al., 2010; Dickson, Derevensky, & Gupta, 2002).

Family cohesion and school connectedness have been shown to play an important protective role in relation to youth problem gambling (Dickson, et al., 2003; Lussier, et al., 2007). For example, at-risk and PPGs were substantially less likely than social and non-gamblers to report being highly connected to their school. Moreover, PPGs reported significantly greater disengagement from their families and were more likely to be classified as disengaged compared to other adolescents: 11.1% of PPGs reported being connected to families, compared with 21.8% of at-risk gamblers, 28.7% of social gamblers, and 34.2% of non-gamblers (Dickson, et al., 2003).

Similarly, Rossen's (2008) research identified that high levels of attachment, trust and communication with parents were protective factors in relation to whether or not young people gambled. Findings in relation to problem gambling specifically found that students who had higher levels of attachment and trust in parents and peers, and had a higher level of communication with their mother, were less likely to experience problems. Of note, the research revealed that social connectedness to maternal and teacher figures acted in a protective manner, even when other substantial risk factors were present (Rossen, 2008). Lussier et al (2007) found that poor 'social bonding' was the strongest predictor of problem gambling (out of seven risk and protection domains) and, like previous research, identified family bonding and school bonding as being key protective factors. Others have identified the importance of parental monitoring (Goldstein, et al., 2013), and healthy and meaningful relationships in protecting young people from problem gambling (Dickson, et al., 2008). Research from Canada found that strong academic achievement may potentially act as a protective factor (Hardoon, et al., 2002).

Researchers from Australia explored the protective factors which mitigate the transmission of parental gambling problems to children, and identified that there is a limited research in this field (NA Dowling, et al., 2010). In keeping with broader protective factors, they did highlight that family cohesion and school connectedness (along with female gender) played a role in protecting young people (Dowling, et al., 2010).

In considering future research in this area, it has been highlighted that the study of protective factors need to be conducted in the presence of risk (Dickson, et al., 2003), particularly given the sometimes unclear relationship between protective and risk factors (e.g. whether it is the absence of risk or the presence of protective factors which has the greatest influence in terms of the subsequent development of problematic gambling) (Dickson, et al., 2008).

2.3 Summary of the youth (problem) gambling literature

Gambling has become a widely available activity in today's society (Hardoon & Derevensky, 2002; Turchi & Derevensky, 2006), with many researchers noting that "an entire generation has now grown up in an era when lottery and casino gambling is widely available and heavily advertised" (Volberg, et al., 2010, p. 3). Research indicates that gambling is one of the first risky activities that adolescents become involved with (i.e. they begin gambling prior to experimentation with alcohol, drugs, sexual behaviour) (Volberg, et al., 2010). Whilst for many youth involvement in gambling does not result in problematic behaviour, others go on to experience serious problems (Dickson, et al., 2003).

A recent review of studies of young people's gambling in the UK, North America, Europe and Oceania found that levels of past year gambling amongst young people ranged from 20-90 percent (Volberg, et al., 2010). It has also been estimated that between 4-8% of young people gamble at problem/pathological gambling levels (Hardoon &

Derevensky, 2002; Jackson, et al., 2008) and a further 10-15% are at risk of developing a gambling problem (Shaffer & Hall, 1996; Turchi & Derevensky, 2006). Rates of youth problem gambling have often been found to be higher than the rates identified for adults (Huang & Boyer, 2007; Shaffer & Hall, 1996; Welte, et al., 2008; Williams, et al., 2008), with some estimating them to be more than double those of adults (Gupta & Derevensky, 1998a; Jackson, et al., 2008; Lesieur, et al., 1991), or up to three times as high (Rigbye, 2010).

The social and other costs of problem gambling experienced by young people have been widely reported in the literature. Frequently documented impacts of problematic gambling for youth include:

- Engagement in other addictive behaviours;
- Negative impacts on mental health (e.g. depression);
- Delinquency and crime;
- Disruption to family and other relationships;
- School difficulties; and,
- Financial difficulties.

Research indicates that parents and friends play an important role in the development and maintenance of gambling behaviour. Issues such as parents/friends participation in gambling activities, attitudes/beliefs about gambling, and gifting of gambling products (e.g. scratch-lottery products) are influential with regard to youth gambling.

There is clear evidence that the health and wellbeing of the children of problem gamblers is likely to be harmed due to their parents' behaviour (Abbott, Cramer, & Sherrets, 1995; Darbyshire, et al., 2001a, 2001b; Jacobs, et al., 1989; Vitaro, et al., 2008). A review of the literature on children who grow up in problem gambling families identified that they may be 'severely and negatively' affected, and that the impacts of gambling on children mirror those that have been identified in relation to parental drug or alcohol use (Darbyshire, et al., 2001a).

Research into youth gambling has begun to explore the role of risk and protective factors. Risk factors may be described as criteria or characteristics associated with an individual that make it more likely that they will develop a problematic behaviour (Mrazek & Haggerty, 1994). A summary of the key risk factors for problem gambling amongst youth, as identified as part of this review, include:

- Demographic characteristics (ethnicity, socioeconomic status, sex);
- Parental involvement in gambling behaviour;
- Early onset of gambling;
- Age (the severity of problem gambling-related behaviours increases with age);
- Personality factors (e.g. anxiety, risk propensity);

- Emotional/mental state (e.g. depression and suicide attempts);
- School-related problems (e.g. poor academic performance and other school problems);
- Substance use;
- Anti-social and criminal behaviour;
- Accessibility to gambling; and,
- Attitudes towards gambling.

Despite the presence of known risk factors, not all young people experience gambling-related or other problems in their lives (Lussier, Derevensky, Gupta, Bergevin, & Ellenbogen, 2007; Vitaro, Wanner, Brendgen, & Tremblay, 2008). Protective factors for youth problem gambling have been described as features which decrease an individual's likelihood of developing problematic gambling behaviour (Dickson, et al., 2003). A summary of protective factors for problem gambling amongst youth, include:

- Female gender;
- Family cohesion / connectedness;
- Parental monitoring;
- Healthy and meaningful relationships;
- School connectedness; and,
- Strong academic achievement.

Researchers have argued the need for further research on Internet gambling (Floros, et al., 2013; Griffiths, 2003; Shead, et al., 2010; Williams & Wood, 2007) and risk and protective factors for youth (Derevensky, et al., 2003; Lussier, et al., 2007; Shead, et al., 2010), including an examination of beliefs and attitudes that contribute to the development of problem gambling amongst youth (Shead, et al., 2010).

3. YOUTH'12 BACKGROUND AND METHODOLOGY

To date, the University of Auckland's (UoA) Adolescent Health Research Group (AHRG) have completed three National youth health and wellbeing surveys. Youth'12, a survey of 8,500 secondary school students throughout New Zealand, is the most recent survey to be undertaken by the AHRG:

- Youth'12 - Survey conducted in 2012
- Youth'07 - Survey conducted in 2007
- Youth'01 - Survey conducted in 2001

Collectively these three surveys are referred to as the Youth2000 Survey Series. The Youth2000 Survey Series aim to provide nationally representative information on the health and wellbeing of young people attending New Zealand secondary schools. The Survey Series includes a wide range of questions about issues that contribute to the health and wellbeing of young people including: ethnicity and culture; physical health; food and activities; substance use; gambling; sexual health; injuries and violence; home and family; school achievement and participation; neighbourhood environment; spirituality; and access to healthcare. The comprehensive Youth'01, Youth'07 and Youth'12 questionnaires allow the AHRG to take an ecological approach to identifying the overall risk and protective factors in young people's lives.

Items on gambling behaviour have been included in the two most recent surveys: Youth'07 and Youth'12. Gambling data from the Youth'07 survey was comprehensively analysed in a report commissioned by the Ministry of Health in 2011: 'An Exploration of Youth Participation in Gambling & the Impact of Problem Gambling on Young People in New Zealand'[10]. Amongst other things, the 2011 report explored youth participation in gambling and the impact of problem gambling on young people in New Zealand, including identifiable risk and resiliency factors.

3.1 Youth'12 methodology - an overview

A full description of the Youth'12 methodology can be found in the report titled 'Youth'12 Prevalence Tables: The Health and Wellbeing of New Zealand Secondary School Students in 2012'. Methods and results from the Youth'12 national youth health and wellbeing survey' (Clark, et al., 2013). A copy of this report and the questions that were used in the Youth'12 survey can be downloaded from www.youthresearch.auckland.ac.nz.

[10] Rossen, F. V., Butler, R., & Denny, S. (2011). *An Exploration of Youth Participation in Gambling and the Impact of Problem Gambling on Young People in New Zealand.* Auckland: Centre for Gambling Studies, Auckland UniServices Limited, The University of Auckland (a report prepared for the Ministry of Health).

3.1.1 The Youth'12 student health and wellbeing questionnaire

The Youth'12 Student Health and Wellbeing Questionnaire was based on the 2001 and 2007 survey. Additional items for inclusion were developed in consultation with stakeholders, advisory groups and academic researchers. The Youth'12 survey was piloted and focus groups were undertaken with young people to ensure comprehension and face validity of the questionnaire items.

The survey covered important health and wellbeing outcomes as well as risk and protective factors that increase or decrease the likelihood of positive and negative outcomes for young people in New Zealand. Nine main areas were covered: Ethnicity; Home; School; Health and Emotional Health; Nutrition, Exercise and Activities; Sexual Health; Substance Use and Gambling; Injuries and Violence; and, Neighbourhood and Spirituality. The final questionnaire consisted of 608 questions. The branching design of the survey meant that initial screening items directed students to further in-depth questions only on topics/behaviours that they had experience with and limited exposure to questions on items that they had no direct experience with. The average time taken to complete the survey was 67 minutes. The survey was conducted within school premises and utilised touch-screen Internet tablets. This allowed the questionnaire to be presented in audio-visual form. Survey questions were displayed on the Internet tablet's screen and were concurrently read out as audio clips via headphones. Response options were also read out when the corresponding text on the screen was selected. This 'voiceover' was available in both English and Māori with students being able to toggle between these two languages.

Deprivation was measured with the NZ Deprivation Index (Salmond, Crampton, & Atkinson, 2007; Salmond, Crampton, Sutton, & Atkinson, 2006). Each student was asked to allow their address to be entered into a geo-coding program for the purposes of ascertaining the census meshblock number for their usual place of residence. For students who lived in more than one home we asked them to provide the address of the home where they spend most of their time. When the student's address was entered, their census meshblock (neighbourhood area) was obtained. The meshblock number was recorded on a paper data collection form, and the address was deleted from the program. As only the meshblock number was recorded, anonymity and confidentiality was assured. The process was carefully explained to students so that they understood that their anonymity was maintained. The meshblock numbers were matched with the meshblock numbers in a concordance file from the Otago University Wellington School of Medicine social indicators research programme. This allowed for each student's data file to include a NZ Deprivation Index Decile and score, an Urban/Rural code and area information such as District Health Board area.

Students were asked about their culture and ethnicity. Students were asked an initial question based on the New Zealand Census standard 2001/2006 ethnicity question: 'Which ethnic group do you belong to?' They were able

to choose more than one response from a list of 23 categories used in the statistical standard for ethnicity (Statistics New Zealand, 2005). Students who had selected more than one ethnic group were also asked 'Which is your main ethnic group (the one you identify with the most)?' and were able to select from the same list of response options with an additional response item: 'I can't choose only one ethnic group'. Students were then asked more detailed questions about the ethnic group(s) to which they belonged. Students who identified with more than two ethnicities (13%) were only asked questions relating to their main ethnic group and their prioritised ethnic group[11], if this was different. No student was asked questions relating to more than two ethnic groupings, in order to keep the survey length manageable.

3.1.2 School participation

Of the 397 composite or secondary schools (with students in Year 9 or above[12]) in New Zealand that met the criteria for inclusion in the Youth'12 survey, 125 were randomly selected and invited to participate. Of these, 91 schools took part (a response rate of 73%). Of the 34 invited schools that did not participate, 26 schools declined to participate, a further two schools initially agreed to participate but later declined to participate, and six schools did not respond to the invitation to participate. School participation was lowest for: state-integrated schools (59%); boys' schools (40%); decile 6 (50%) and decile 7 (64%) schools; rural schools (60%); and, schools in Wellington (50%), Nelson-Marlborough (60%), Tasman West Coast (60%) or Otago and Southland (54%) regions.

Table 4 shows the characteristics of the eligible, invited, and participating schools. The characteristics of the eligible and invited schools were similar. However due to unequally distributed school participation rates, state integrated, boys' schools and decile 6 and 7 schools were slightly under-represented in the final survey sample.

[11] Single level one prioritized ethnicity for each student, which is based on the prioritization system developed by Statistics NZ using the following hierarchy: Māori > Pacific >Asian >Other >European. Statistics New Zealand (1996). Ethnicity - Standard Classification.

[12] New Zealand Secondary Schools teach students from Year 9 (in which students are typically 12 years of age) to Year 13 (in which students are typically 18 years of age).

Table 4: Characteristics of participating schools in Youth'12

Variable	Eligible		Invited		Participating	
Total	397		125		91	
Authority	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Private: fully registered	33	8.3	12	9.6	8	8.8
State: integrated	88	22.2	27	21.6	16	17.6
State: not integrated	276	69.5	86	68.8	67	73.6
Type of school	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Co-educational	290	73.1	90	72.0	71	78.0
Boys' school	46	11.6	15	12.0	6	6.6
Girls' school	61	15.4	20	16.0	14	15.4
School size[1]	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Large (≥350 students)	267	67.3	81	64.8	57	62.6
Small-medium (<350 students)	130	32.8	44	35.2	34	37.4
School decile grouping	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Low (decile 1-3)	107	26.9	34	27.2	26	28.6
Medium (decile 4-7)	166	41.8	52	41.6	36	39.6
High (decile 8-10)	121	30.4	39	31.2	29	31.9
School decile	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Decile 1	22	5.5	9	7.2	7	7.7
Decile 2	49	12.3	11	8.8	8	8.8
Decile 3	36	9.1	14	11.2	11	12.1
Decile 4	36	9.1	13	10.4	11	12.1
Decile 5	41	10.3	13	10.4	10	11.0
Decile 6	42	10.6	12	9.6	6	6.6
Decile 7	47	11.8	14	11.2	9	9.9
Decile 8	39	9.8	17	13.6	12	13.2
Decile 9	43	10.8	9	7.2	8	8.8
Decile 10	39	9.8	13	10.4	9	9.9
No decile information	3	0.8	0	0	0	0.0

Note:
1. Students in Year 9-15

3.1.3 Student participation

In total, 12,503 students were randomly selected and invited to participate in the survey. Of these, 8,500 students took part; this represents 68% of those selected, 3.1% of Year 9-15 students attending an eligible school, and 3.0% of all Year 9-15 students[13] in New Zealand in 2012.

The proportion of students from each school varied according to the size of school roll: for schools with more than 150 students in Years 9 to 13, 20% of students were randomly selected and invited to participate. Of the 13 Schools with 150 students or less in Years 9 to 13, 30 students were randomly selected and invited to participate (this approach was adopted to reduce the risk of identification of individual students when reporting results back to smaller schools).

In this report (and other national reports for Youth'12), results have been adjusted for the likelihood of selection, with data from these smaller schools given less weight to allow for the higher proportion of students selected from them.

Table 5 shows characteristics of students attending eligible and invited schools and of students that participated in the survey. Due to unequally distributed participation rates, male students, students in Year 13, and those aged 17 years and older were under-represented in the final survey sample. Students attending decile 1-3 schools and Māori and Pacific students were well represented.

The students in the Youth'12 sample are generally representative of the New Zealand population with slightly higher proportions of Pacific Island, Asian and 'Other' ethnic groups than would be expected and fewer New Zealand European/Pākehā students.

[13] Years 14 and 15 are those students who are repeating Years 12 and 13.

Table 5: Characteristics of participating students in Youth'12

Variable	Students attending eligible schools		Students attending Invited schools		Surveyed Students	
Sex	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Male	137,250	50.6	42,430	49.9	3,874	45.6
Female	133,961	49.4	42,609	50.1	4,623	54.4
Total	271,211	100.0	85,039	100.0	8,497	100.0
Age	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
13 year or younger	46,301	17.1	14,562	17.1	1,838	21.7
14 years	57,712	21.3	18,146	21.3	1,896	22.3
15 years	57,210	21.1	18,126	21.3	1,755	20.7
16 years	53,005	19.5	16,829	19.8	1,578	18.6
17 years or older	56,983	21.0	17,376	20.4	1,422	16.8
Year	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Year 9	56,514	20.8	17,793	20.9	2,061	24.3
Year 10	58,150	21.4	18,102	21.3	1,936	22.8
Year 11	57,117	21.1	18,236	21.4	1,727	20.4
Year 12	53,173	19.6	16,814	19.8	1,534	18.1
Year 13	44,767	16.5	13,673	16.1	1,227	14.5
Year 14[1]	921	0.3	162	0.2		
Year 15[1]	569	0.2	259	0.3		
School decile	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
1	10,749	4.0	4,746	5.6	681	8.0
2	16,847	6.2	6,788	8.0	542	6.4
3	16,739	6.2	5,054	5.9	570	6.7
4	24,758	9.1	7,440	8.7	845	9.9
5	28,510	10.5	9,651	11.3	1,103	13.0
6	34,063	12.6	9,686	11.4	626	7.4
7	28,246	10.4	9,609	11.3	722	8.5
8	36,368	13.4	14,220	16.7	1,536	18.1
9	34,425	12.7	9,150	10.8	1,137	13.4
10	40,254	14.8	8,695	10.2	738	8.7
Ethnicity[2]	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
European	149,479	56.7	45,093	54.5	4,042	47.5
Māori	53,311	20.2	16,927	20.4	1,701	20.0
Pacific	25,656	9.7	9,881	11.9	1,201	14.1
Asian	28,736	10.9	9,012	10.9	1,051	12.4
Other	6,333	2.4	1,875	2.3	511	6.0

Notes:
1. Surveyed students could not indicate if they were in Year 14 or 15 (i.e. repeating Year 12 or 13)
2. Ethnicity is prioritised using the NZ Census ethnicity prioritisation method

3.2 Youth'12: Gambling

The project outlined in this report was commissioned by the Ministry of Health and relates to an in-depth quantitative analysis of those Youth'12 items with a focus on gambling. This section provides details on the research aims and objectives (Section 3.2.1), the Youth'12 gambling questions (Section 3.2.2), other health related items that were included in the analyses (Section 3.2.3) and the data analysis procedures and a guide to interpreting the results (Section 3.2.4).

3.2.1 Aims and objectives

The project outlined in this report relates to an in-depth quantitative analysis of those Youth'12 items with a focus on gambling. For the purpose of this study, gambling was defined as having bet precious things for money on an activity. The overall aim of the project was to provide an accurate and detailed description of the gambling behaviour of secondary school students in New Zealand. Specifically, the objectives of the study can be summarised as:

1. To investigate the levels of youth gambling in New Zealand, including descriptions of:
    - Gambling activities that students participate in;
    - Frequency of gambling;
    - Money and time spent gambling;
    - Reasons students gamble;
    - People that students gamble with;
    - Views and attitudes towards gambling;
    - Indicators of unhealthy gambling;
    - Help-seeking behaviour for unhealthy gambling;
    - Peer gambling; and,
    - Familial gambling.
2. To investigate the impacts on young people of their own, peer and familial gambling.
3. To help identify which groups of students are at higher risk of unhealthy gambling behaviour/practices.
4. To describe risk and protective factors associated with unhealthy gambling behaviours amongst New Zealand secondary school students.
5. To investigate changes over time for gambling behaviour by comparing Youth'07 and Youth'12 survey data.

3.2.2 Youth'12 gambling questions

Figure 1 provides an overview of the gambling questions that were included in the Youth'12 survey (full details on the gambling questions from the survey are available in Appendix A). In total, the survey included 14 questions on gambling, which equated to a total of 90 items (i.e. some questions allowed for multiple responses). The following four initial questions were asked of *all students*:

1. "Which of these do you think is okay for people your age to play or do regularly? (you may choose as many as you need)"
2. "Which of the following activities do your friends play or do? (you may choose as many as you need)"
3. "Which of the following activities do your parent/s or caregiver/s play or do? (you may choose as many as you need)"
4. "Have you ever gambled or bet precious things for money on any of these activities?"

While students who provided an affirmative response to the fourth question were asked the remainder of the gambling questions (see below), the branching design of the survey directed students who answered "Never" or "Not in the past 12 months" to the final gambling question in the survey (which asked about impacts in the family because of someone else's gambling).

1. "Thinking about the activities in the previous question, how much money would you usually spend each week on bets or gambling?"
2. "How much time would you usually spend each day on bets or gambling?"
3. When you do these activities or gamble, who do you usually do it with? (you may choose as many as you need)
4. "Why do you participate in gambling or bet for money? (you can choose as many as you need)"
5. "How many times in the last 12 months have you… [14]
    - Had friends or family tell you that you should cut down on the money or time you spend on gambling or these activities?
    - Had your performance or attendance at school or work affected by gambling or these activities?
    - Done things that could have got you into serious trouble (e.g. stealing) because of gambling or these activities?
    - Had arguments or fights with your friends because of the money or time spent on gambling or these activities?

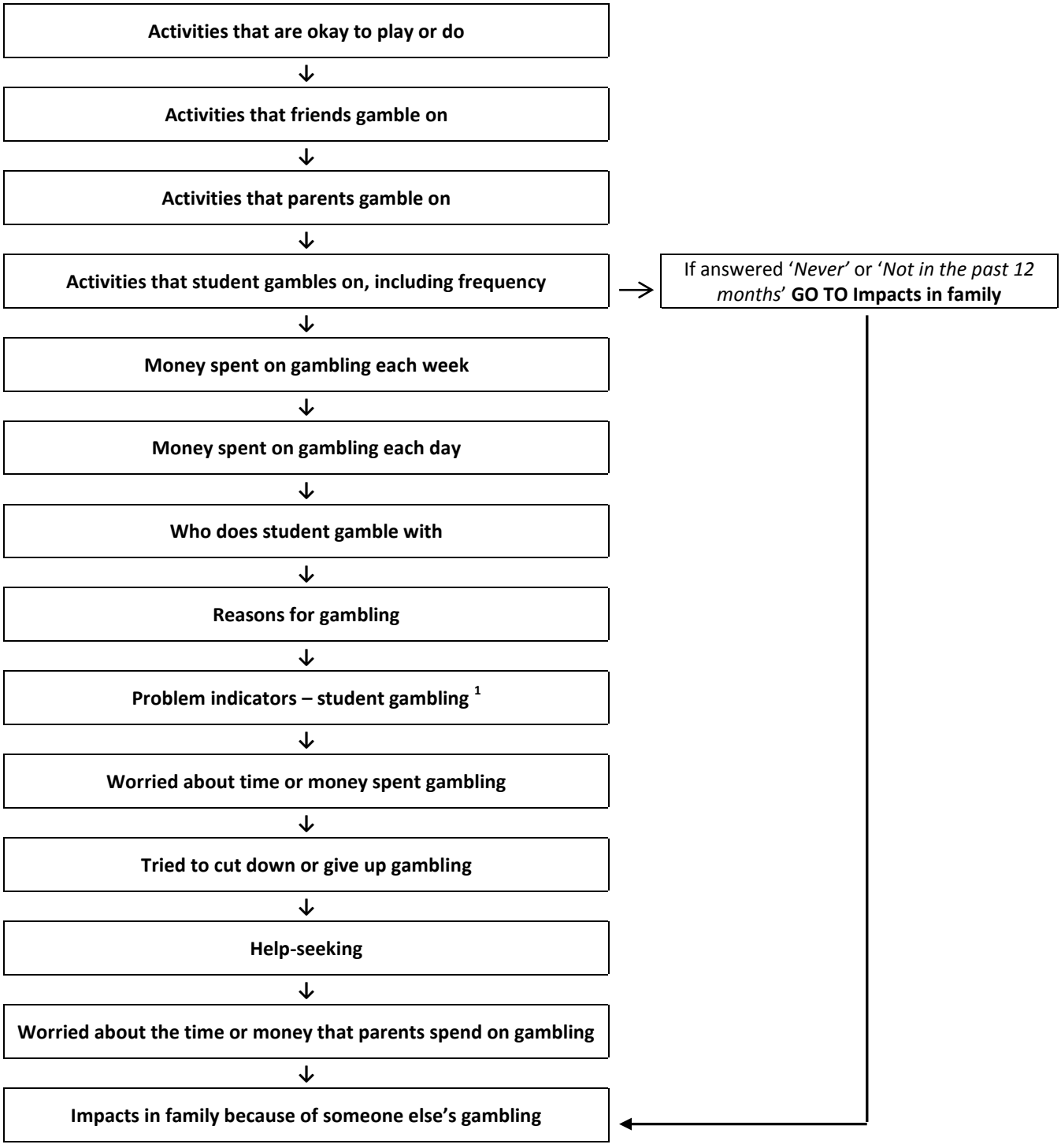
[14] Due to a technological error, this question (five indicators of problematic student gambling) was inconsistently coded and subsequently omitted from the questionnaire. As such, data relating to this item have not been reported on or analysed.

- Had arguments with your family because of the money or time spent on your gambling or activities?"

6. "Are you worried about how much time or money you spend on these activities or gambling?"
7. "Have you ever tried to cut down or give up gambling or any of these activities?"
8. "If you had problems or concerns because of your gambling, who would you go to for help? (you may choose as many as you need)"
9. "Do you ever worry or feel anxious about how much money or time other people you live with (parents and family), spend on gambling or any of these activities?"
10. "How many times in the last 12 months have these things happened in your family because of someone else's gambling…
    - Had arguments or fights about time or money spent on betting or gambling?
    - We had to go without something we needed (e.g. food) because too much money was spent on gambling or betting?
    - Some bills weren't paid because too much money was spent on gambling or betting?
    - They did things that could have got them into serious trouble (e.g. stealing) because of gambling or these activities?"

The flowchart in Figure 1 provides an overview of the gambling questions, including their order in the questionnaire and the branching design.

Figure 1: Flowchart of Youth'12 gambling questions



Note:

1. Due to a technological error, this question (five indicators of problematic student gambling) was inconsistently coded and subsequently omitted from the questionnaire. As such, data relating to this item have not been reported on or analysed.

3.2.3 Health related items

In addition to the previously defined variables, the following standardised measures from the Youth'12 survey were analysed in relation to youth gambling:

- *Depression:* The Reynolds Adolescent Depression Scale, Short Form (RADS-SF) was used to measure symptoms of depression – a score of ≥28 indicated significant depressive symptoms. This cut-off score was based on a previous evaluation of the Reynolds Adolescent Depression Scale in New Zealand adolescents (Milfont et al., 2008).
- *Wellbeing:* Wellbeing was measured by the WHO-5 Well-Being Index (World Health Organization, 1998). The WHO-5 is a short self-administered questionnaire that covers five-item relating to positive mood, vitality and general interests. Participants with scores of ≥13 were classified as having good overall wellbeing.

3.2.4 Data analysis and interpreting the results

All statistical analyses outlined in this report were carried out using SAS software (version 9.3) (SAS Institute Inc., 2011) and have accounted for the sample design and clustering effects within schools.

A number of parameters are detailed when reporting the statistics in this report. In the tables for each item, we report 'N', which refers to the total number of students who answered that particular question in the survey and 'n' which is the number of students engaging in that behaviour. Each table also provides prevalence estimates (i.e. weighted percentages '%') and 95% confidence intervals ('95% CI'). These confidence intervals provide an indication of the precision of the percentage results by providing a range or an interval in which we are relatively sure that the true value lies (i.e. we are 95% confident that the actual prevalence for that response/category lies between the two values provided). A wide confidence interval indicates more uncertainty in the percentage results than a narrow interval. Note that we have adjusted all confidence intervals in this report for the clustering of students within schools, reflecting evidence that students from the same school are more alike than those from different schools (Murray, 1998).

Tables in this report present results according to sex, age, New Zealand 2006 Deprivation Index (NZDep2006) groupings and an urban/rural classification. The purpose of presenting results in this manner is to inform schools, communities and families about particular issues related to gambling, and to assist in equitable allocation of resources. It is important, however, to avoid placing too much emphasis on apparent differences between groups, especially when the numbers of students are small. A useful guide when comparing results is the use of confidence intervals. For instance, if two estimates' for the same behaviour have overlapping confidence

intervals, the differences are unlikely to be meaningful. Where there are very few students responding to a specific question (≤5), results are presented as totals or by sex only.

Logistic regression models were also used to investigate associations between a number of key items and gambling status (e.g. problematic gambling); these statistical tests employed a p-value of 0.05 as a measure of statistical significance.

4. RESULTS

The following sections (Section Five – Section Twelve) report findings in relation to the impacts of gambling on young people as measured by gambling items included in Youth'12. Results have been reported in the following categories:

- Students and their own gambling (Section Five);
- Unhealthy gambling amongst students (Section Six);
- Attitudes and motivating factors towards gambling (Section Seven);
- The impacts of others' gambling on students (Section Eight); and,
- Risk and protective factors for student gambling (Section Nine);

This report also includes three ethnic-specific summaries on young people and gambling:

- Gambling and Māori taitamariki in Aotearoa (Section 10);
- Gambling and Pacific young people in New Zealand (Section 11); and,
- Gambling and Asian young people in New Zealand (Section 12).

These summaries provide an overview of key findings and important issues in relation to gambling for Māori, Pacific and Asian young people and will be a particularly helpful resource for those working in a range of communities with young people and their whānau.

5. STUDENTS & THEIR OWN GAMBLING

The following section outlines results that relate to the level of engagement that students had with gambling:

- Gambling over the past year and past month;
- Type of activities that students gamble on;
- Number of activities that students gamble on;
- Time and money spent on gambling activities; and,
- Social context of gambling.

5.1 Gambling over the past year and past month

One in ten students had gambled in the last four weeks and almost one-quarter (24%) of all students had gambled in the last year (See Table 6). Overall, rates of gambling were fairly consistent across age, urban/rural setting, and level of neighbourhood deprivation. However, greater proportions of males than females had gambled in the last 4 weeks (13% and 8% respectively) and in the last year (26% and 23% respectively).

Table 6: Gambling over past year and past month (among all students; N=7813)

		Gambled in the last 4 weeks		Gambled in the last 12 months [1]	
		n (N)	% 95% CI	n (N)	% 95% CI
Total		804 (7813)	10.3 9.4 - 11.3	1890 (7813)	24.2 23.1 - 25.3
By Gender	Male	440 (3456)	12.8 11.7 - 13.8	911 (3456)	26.4 24.7 - 28.1
	Female	363 (4355)	8.4 7.4 - 9.3	978 (4355)	22.5 21.4 - 23.6
By Age	13 and under	191 (1679)	11.4 9.7 - 13.1	408 (1679)	24.3 22.0 - 26.6
	14	169 (1760)	9.7 8.2 - 11.2	405 (1760)	23.2 21.2 - 25.1
	15	169 (1594)	10.6 9.1 - 12.2	376 (1594)	23.6 21.9 - 25.3
	16	144 (1444)	9.9 8.1 - 11.7	356 (1444)	24.7 22.0 - 27.4
	17 and over	129 (1326)	9.7 8.1 - 11.4	341 (1326)	25.7 23.5 - 27.9
By Ethnicity	NZ European	335 (3852)	8.7 7.5 - 9.9	916 (3852)	23.8 22.3 - 25.4
	Māori	180 (1490)	12.1 10.4 - 13.8	375 (1490)	25.1 22.7 - 27.5
	Pacific	142 (1007)	14.2 10.8 - 17.5	264 (1007)	26.3 23.2 - 29.3
	Asian	91 (983)	9.3 7.9 - 10.8	221 (983)	22.6 20.0 - 25.1
	Other	55 (474)	11.6 8.5 - 14.7	113 (474)	23.9 19.5 - 28.3
By NZDep2006	Lower	239 (2598)	9.3 7.8 - 10.7	639 (2598)	24.7 22.6 - 26.7
	Medium	272 (2809)	9.7 8.5 - 10.9	667 (2809)	23.8 22.1 - 25.4
	Higher	286 (2327)	12.4 10.5 - 14.2	565 (2327)	24.4 22.5 - 26.3
By Geography	Urban	693 (6563)	10.6 9.6 - 11.6	1,580 (6563)	24.1 23.0 - 25.3
	Rural	104 (1171)	8.9 7.3 - 10.5	291 (1171)	24.8 22.2 - 27.5

Note:
1. The percentage reported here includes students who had gambled in the past four weeks.

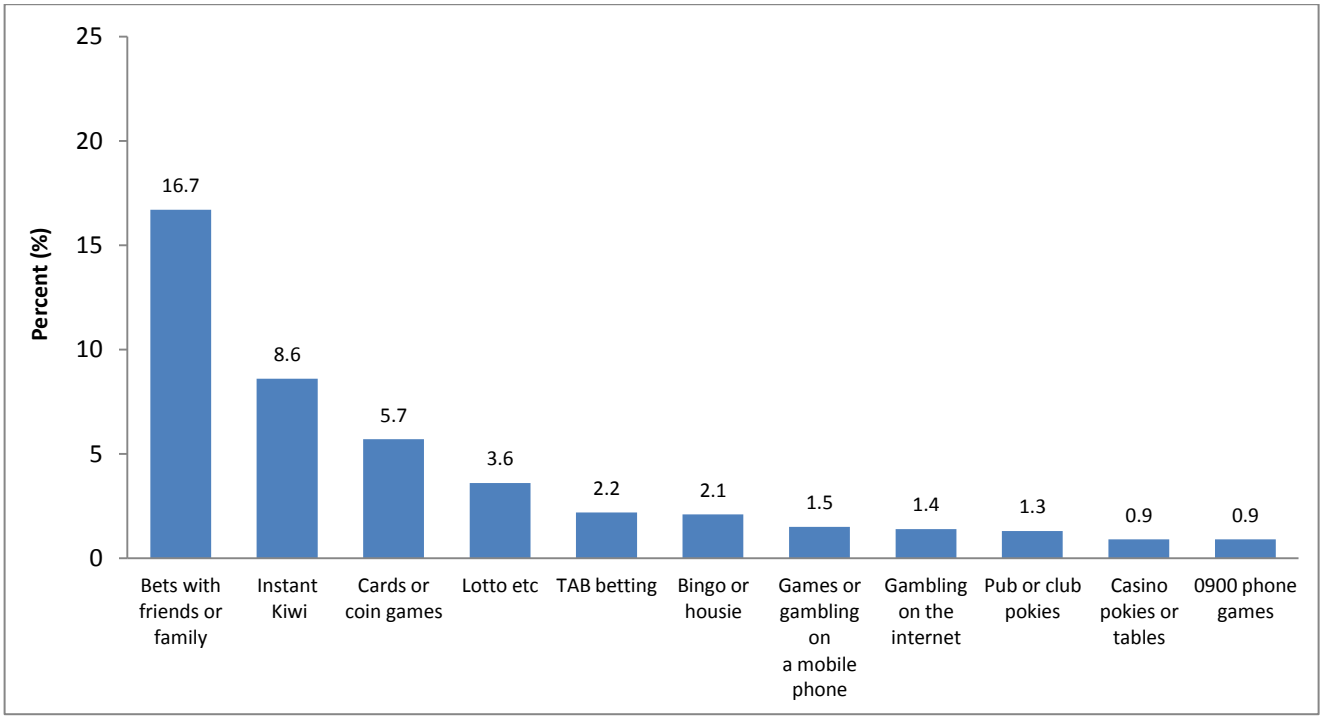
5.2 Type of activities that students gamble on

The types of gambling that students most frequently reported participating in were: "bets with friends or family" (17%); "Instant Kiwi (scratchies)" (9%)[15]; and, "cards or coin games (e.g. poker)" (6%). Less than five percent of students indicated that they had participated in the other listed modes of gambling. Figure 2 illustrates the types of gambling that students participated in over the 12 months prior to the survey.

A greater proportion of males than females had gambled on the following activities over the last 12 months: "a casino (e.g. roulette, pokies)"; "games and gambling on a cell/mobile phone for money or prizes (e.g. txt games)"; "gambling on the Internet for money or prizes (e.g. Internet casinos or poker)", "bets with friends or family"; and, "cards or coin games (e.g. poker)". Students from neighbourhoods with higher levels of socio-economic deprivation and those living in urban settings were more likely than their counterparts to have gambled on "bingo or housie".

Detailed information on participation rates by gambling mode, including a breakdown of data according to demographic variables, can be found in Appendix B.

Figure 2: Types of gambling that students participated in over past 12 months (among all students; N=7813) [1]



Note:
1. Students could choose more than one response option.

[15] The legal age for gambling in New Zealand varies according to the specific activity: Instant Kiwi – 18 years of age; Casino - 20 years of age; TAB betting – 18 years of age; Pub/Club EGMs - 18 years of age. There are currently no age limits on the following NZ Lotteries products: Lotto, Strike, Powerball and Big Wednesday.

5.3 Number of activities that students gamble on

While the majority of students (76%; n=5,923) had not gambled in the past 12 months, a sizeable proportion had gambled on either just one activity (14%) or two to three activities (8%). Very few students (2%) had gambled on 4 or more activities (see Table 7 for details).

Table 7: Number of gambling activities that students participated in over past 12 months (among all students; N=7813)

Number of gambling activities participated in over the last 12 months	n (N)	% 95% CI
0	5923 (7813)	75.8 74.7 - 76.9
1	1109 (7813)	14.3 13.4 - 15.1
2 to 3	631 (7813)	8.1 7.4 - 8.8
4 to 5	82 (7813)	1.1 0.8 - 1.3
6 or more	68 (7813)	0.9 0.6 - 1.1

A greater proportion of males (1.3%) than females (0.5%) had gambled on 6 or more activities over the past 12 months; and, students aged 17 and over were more likely than younger students to have gambled on 2 to 3 gambling activities. Overall, the number of gambling activities that students had engaged in over the past 12 months was fairly consistent across level of neighbourhood deprivation and rural/urban setting. Further details can be found in Appendix C.

5.4 Time and money spent on gambling activities

Four percent of the students who had gambled in the last 12 months indicated that they would usually spend $20 or more per week on gambling activities. The proportion of males who usually spent $20 or more per week (5%) was greater than that for females (2%). There were no other meaningful differences according to demographic features (i.e. age, level of neighbourhood deprivation or living in an urban/rural setting) (see Table 8 for details).

Very few students (2% of those who had gambled in the last 12 months) indicated that they spent 30 minutes or more per day on gambling. No meaningful differences were observed in the amount of time spent gambling according to demographic features (see Table 8).

Table 8: Time and money spent on gambling activities (among students who have gambled in the past 12 months; n=1882)

		Usually spend $20 or more per week on gambling		Usually spend 30 minutes or more per day on gambling	
		n (N)	% 95% CI	n (N)	% 95% CI
Total		67 (1882)	3.6 2.7 - 4.4	44 (1878)	2.3 1.5 - 3.0
By Sex	Male	47 (905)	5.2 3.7 - 6.6	25 (903)	2.7 1.4 - 3.9
	Female	20 (976)	2.1 1.2 - 2.9	19 (974)	2.0 0.9 - 3.0
By Age	13 and under	8 (405)	2.1 0.6 - 3.5	few or none	-
	14	13 (403)	3.1 1.6 - 4.6	9 (403)	2.1 0.8 - 3.4
	15	16 (375)	4.3 2.2 - 6.4	16 (374)	4.3 1.8 - 6.8
	16	16 (356)	4.5 2.5 - 6.5	8 (355)	2.1 0.8 - 3.4
	17 and over	13 (339)	3.9 1.7 - 6.0	9 (339)	2.7 0.9 - 4.5
By Ethnicity	NZ European	20 (915)	2.2 1.3 - 3.1	8 (915)	0.8 0.3 - 1.3
	Māori	21 (373)	5.6 3.4 - 7.8	8 (371)	2.0 0.7 - 3.4
	Pacific	11 (261)	4.2 2.0 - 6.5	14 (259)	5.4 2.3 - 8.5
	Asian	10 (219)	4.6 2.0 - 7.1	10 (219)	4.6 2.3 - 6.9
	Other	few or none	-	few or none	-
By NZDep2006	Lower	15 (635)	2.4 1.1 - 3.6	10 (636)	1.6 0.7 - 2.5
	Medium	25 (665)	3.7 2.1 - 5.3	17 (663)	2.4 1.3 - 3.6
	Higher	26 (564)	4.7 3.3 - 6.1	17 (561)	2.4 1.3 - 3.6
By Geography	Urban	59 (1574)	3.8 2.8 - 4.7	41 (1570)	2.6 1.7 - 3.4
	Rural	7 (290)	2.2 0.6 - 3.9	few or none	-

5.4.1 Time and money spent gambling - comparison of Youth'07 and Youth'12

Small, but statistically significant, decreases were observed in the amount of time and money that students spent on gambling from 2007 to 2012. In particular, the percentage of students who spent "$20 or more per week" on gambling decreased from 5% in 2007 to 3.6% in 2012 (p=0.0005). Similarly, a smaller proportion of students spent "30 minutes or more per day" on gambling in 2012 (2.3%) compared with 2007 (4.5%) (p=0.0028)[16] (see Table 9).

Table 9: Time and money spent on gambling activities – comparison of Youth'07 and Youth'12 (among students who have gambled in the past 12 months)

	Youth'07		Youth'12	
	n (N)	% 95% CI	n (N)	% 95% CI
Usually spend $20 or more per week on gambling	111 (2238)	5.0 4.0 - 6.0	67 (1882)	3.6 2.7 – 4.4
Usually spend 30 minutes or more per day on gambling	99 (2233)	4.5 3.4 – 5.5	44 (1878)	2.3 1.5 - 3.0

5.5 Social context of gambling

Students who had gambled in the past 12 months (N=1,975) were asked "When you do these activities or gamble, who do you usually do it with?"

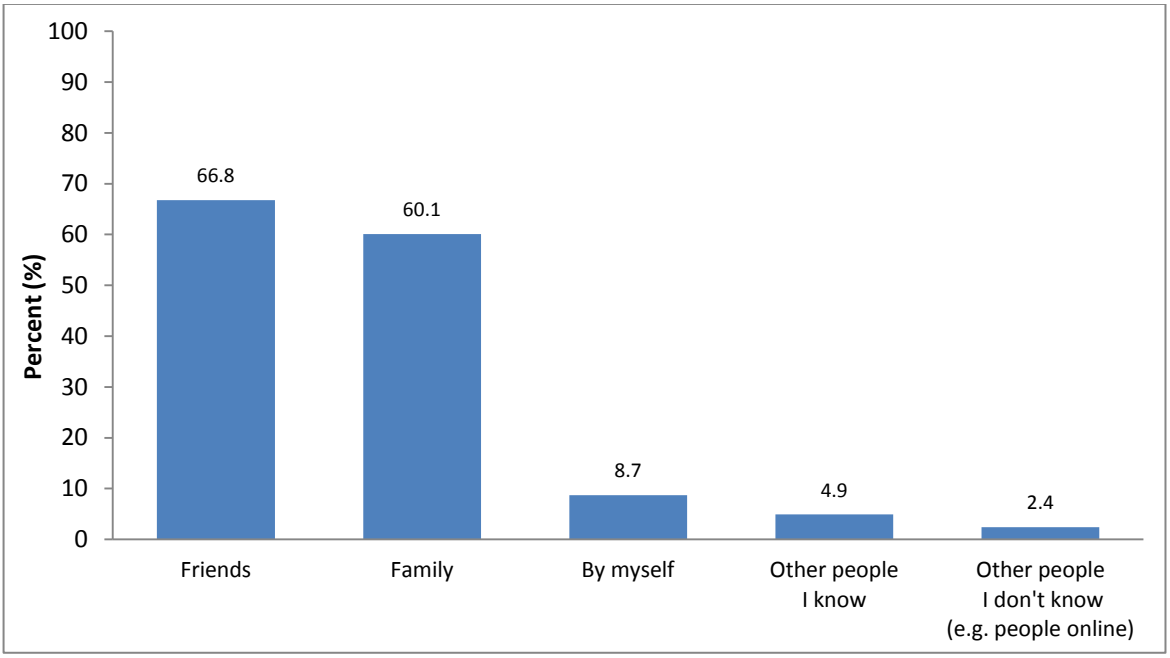
Most students who had gambled indicated that they usually did so with "friends" (67%) or with "family" (60%). Very few (less than 10%), said that they usually gambled with "other people I know" (5%), "other people I don't know (e.g. people online)" (2%), or "by myself" (9%) (see Figure 3).

There was a trend for the proportion of students who gamble with family members to decrease by age (e.g. 65% of those aged 13 and under gambled with a family member, compared with 51% of those aged 17 and over). Female students were more likely than their male counterparts to indicate that they usually gamble with family members (65% and 55% respectively).

No meaningful differences in relation to the social context of gambling were reported by level of neighbourhood deprivation or urban/rural setting. See Appendix D for further details on this item.

[16] Significance testing accounted for age, sex, ethnicity, level of neighbourhood socioeconomic deprivation, and urban/rural setting. However, caution is required when interpreting these results. Differences in the branching design of the initial gambling items in Youth'07 and Youth'12 may have resulted in different sub-samples of students answering this question.

Figure 3: When you do these activities or gamble, who do you usually do it with? (among students who have gambled in the past 12 months; N=1,975) [1]



Note:

1. Students could choose more than one response option.

5.6 Summary: Students and their own gambling

KEY POINTS:

- Approximately 10% of students had gambled in the last four weeks and 24% had gambled in the last 12 months. Greater proportions of males than females had gambled.
- Among students who have gambled in the past 12 months, very few reported that they usually spend '$20 or more per week' or '30 minutes or more per day' on gambling activities (4% and 2% respectively).
- Fourteen percent of all students had gambled on just one type of gambling activity over the past 12 months, 8% had gambled on 2 to 3 activities and very few (2%) had gambled on 4 or more activities.

- Most students' who gamble usually did so with friends or with family members (especially younger students).
- "Bets with friends or family", "Instant Kiwi (scratchies)", and "Cards or coin games (e.g. poker)" were the types of gambling that students most frequently reported participating in.
- Gambling in a casino, on cell-phones, over the Internet, bets with friends/family, and card/coin games were more popular amongst males than females.
- Despite age restrictions on certain modes of gambling[1], some students participated in activities that are illegal for their age group. For example, a number of students aged 16 or less[2] reported gambling on the following modes over the past year: Instant Kiwi (n=529 students); Pub/club pokies (n=73 students); Casino tables/machines (n=57 students); TAB betting (n=138 students).
- Small but statistically significant decreases were observed in the overall amount of time and money that students spent on gambling from 2007 to 2012.

Notes:

1. The legal age for gambling in New Zealand varies according to the specific activity: Instant Kiwi – 18 years of age; Casino - 20 years of age; TAB betting – 18 years of age; Pub/Club gambling machines - 18 years of age.
2. Students aged '17 or older' have not been included in these figures as some of them may be of a legal age to gamble on these modes. As such, the figures reported above may underestimate the actual numbers of minors illegally participating in each activity.

6. UNHEALTHY GAMBLING AMONGST STUDENTS

Youth'12 gathered data on a number of issues that may be indicative of unhealthy gambling behaviour, including whether or not students' had concerns about the amount of time or money that they had spent on gambling, and whether or not students had attempted to cut down or reduce their gambling. Students were also asked about their preferences when seeking help in regards to gambling-related issues. Results for each of these items are discussed in the following section.

6.1 Worried about or tried to cut down on the amount of time or money spent on gambling

Students who had gambled in the last 12 months (N=2,077) were asked "Are you worried about how much time or money you spend on these activities or gambling?" While the majority (85%) of these students were not worried, approximately 15% (n=318) indicated that they were worried about the amount of time or money that they had spent on these activities (5% said they worried about this "a lot", 5% "some" and 6% "a little"). A greater proportion of male than female students said they were worried (19% and 11% respectively) and it was more common for younger students to be worried about their gambling, for example, 22% of those aged '13 and under' compared to 12% of those aged '17 and over' were worried about their gambling. Greater proportions of students from neighbourhoods with higher levels of deprivation (see Figure 4) and those living in urban settings were worried about the money or time they spent gambling. Appendix K provides a full breakdown of this item by demographic variables.

Fourteen percent of students (n=293) who had gambled in the past 12 months (N=2,069) reported that they had tried to cut down or give up gambling. While there were no meaningful differences between the proportions of males and females who had tried to cut down, the following differences were observed: younger students were more likely to have tried to give up than older students; a greater proportion of students from neighbourhoods with higher levels of socio-economic deprivation had tried to cut down on gambling (see Figure 5); and, students living in urban settings were more likely to have tried to give up gambling than their rural peers (15% and 6% respectively). Further details are provided in Appendix K.

Figure 4: Worried about the amount of time or money spent gambling by neighbourhood deprivation (among students who have gambled in the last 12 months; N=2077)

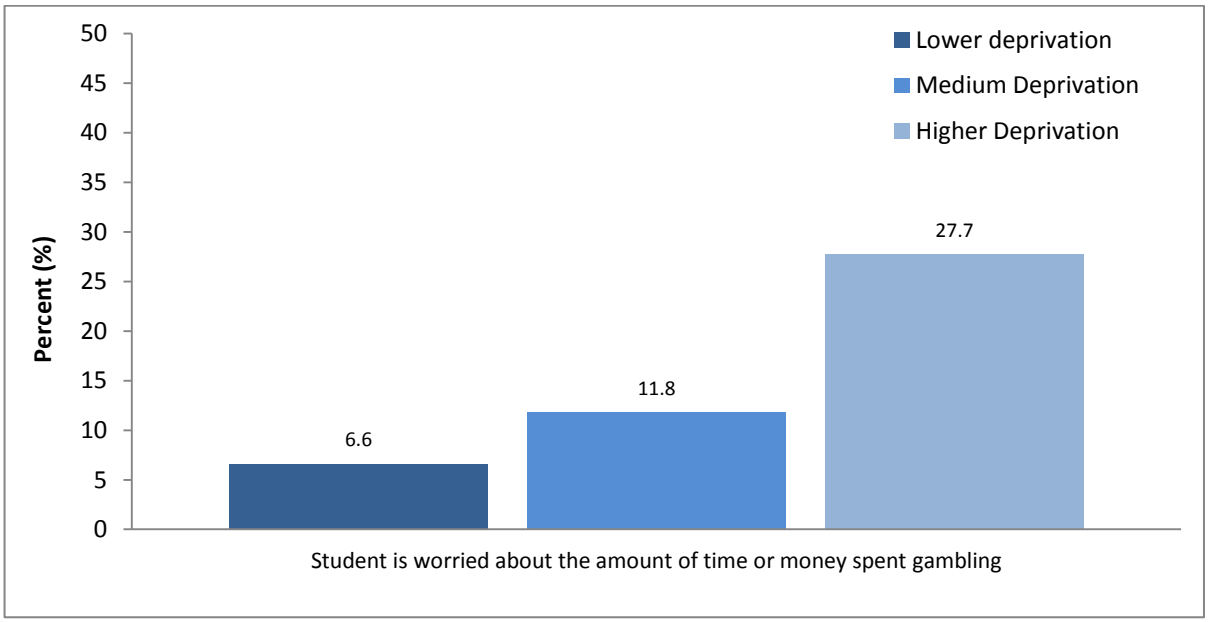
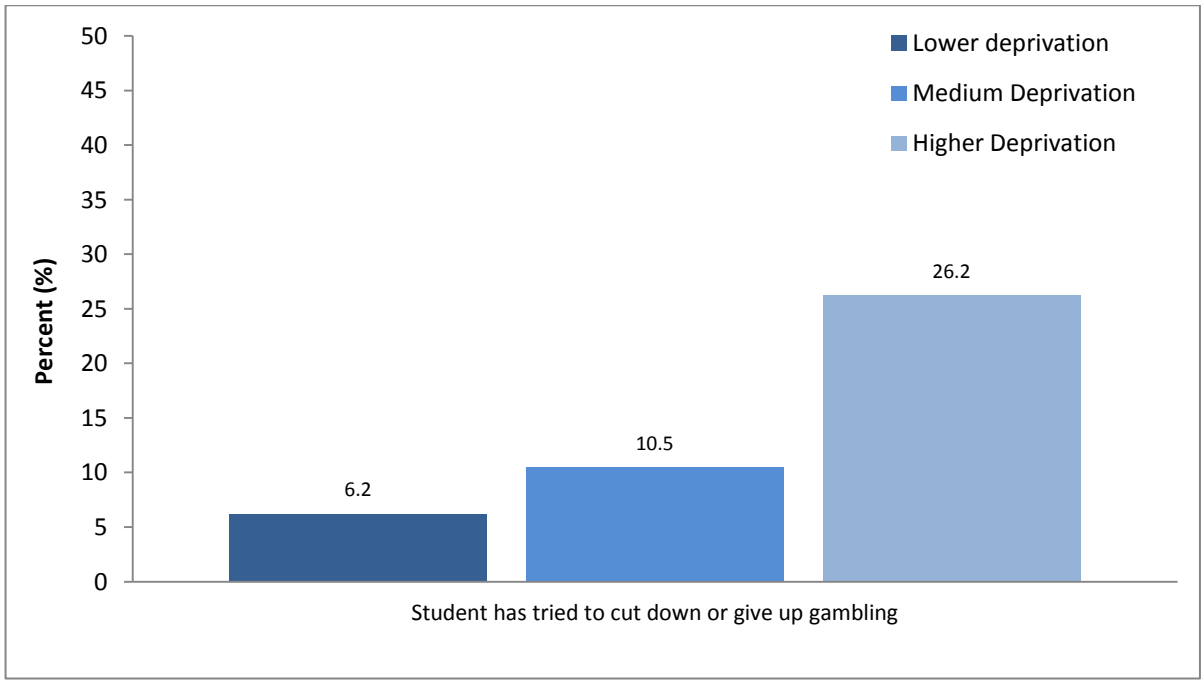


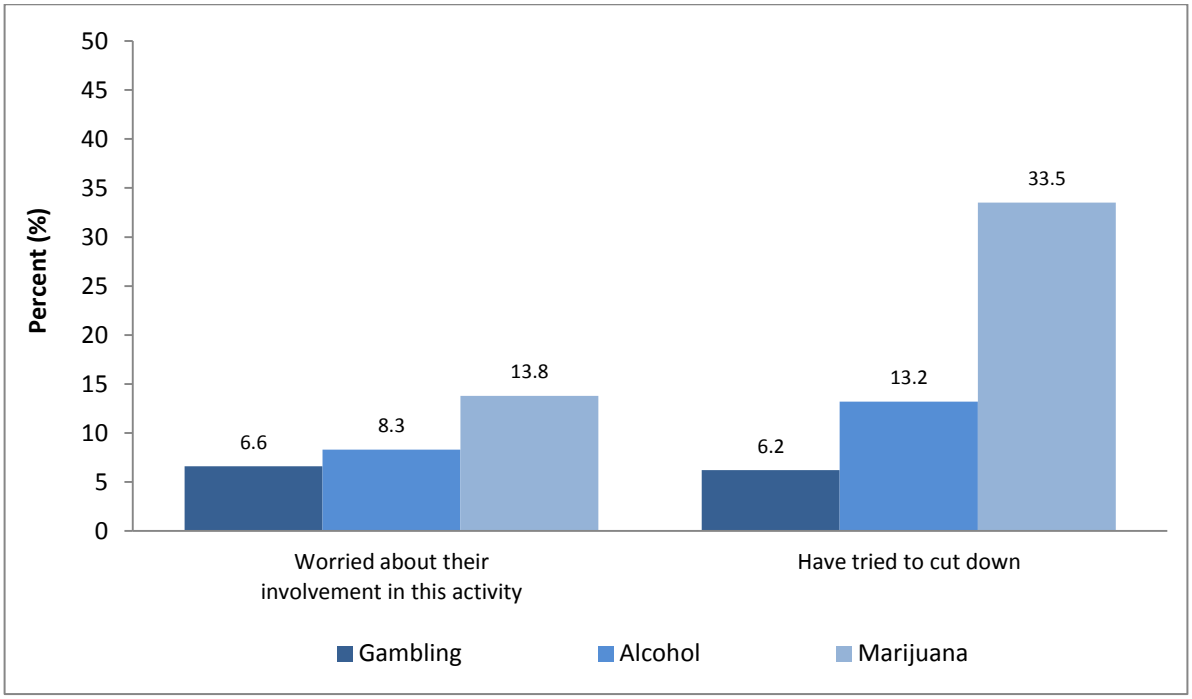
Figure 5: Have tried to cut down or give up gambling by neighbourhood deprivation (among students who have gambled in the last 12 months; N=2069)



6.1.1 Comparison with other risky behaviours

Figure 6 illustrates the proportions of students who have worried about or tried to cut down on their gambling, use of alcohol, and use of marijuana. The rates portrayed in Figure 6 (and discussed in the following text) relate to a proportion of students who have engaged in each activity (i.e. 6.6% of students who have gambled over the past 12 months were worried about their gambling and 8.3% of students who had drunk alcohol over the past 12 months were worried about their drinking). While similar proportions of students who had engaged in gambling and alcohol were worried about these behaviours (6.6% and 8.3% respectively) a greater proportion had worried about their use of marijuana (13.8%). A similar, although more noticeable trend was observed with regard to students trying to cut down on these behaviours: 33.5% of students who had used marijuana in the past 12 months had tried to cut down, compared with 13.2% for alcohol and 6.2% for gambling.

Figure 6: Comparison of rates of students who are worried about / have tried to cut down on activities (among students who have participated in each activity in the last 12 months [1, 2])



Notes:

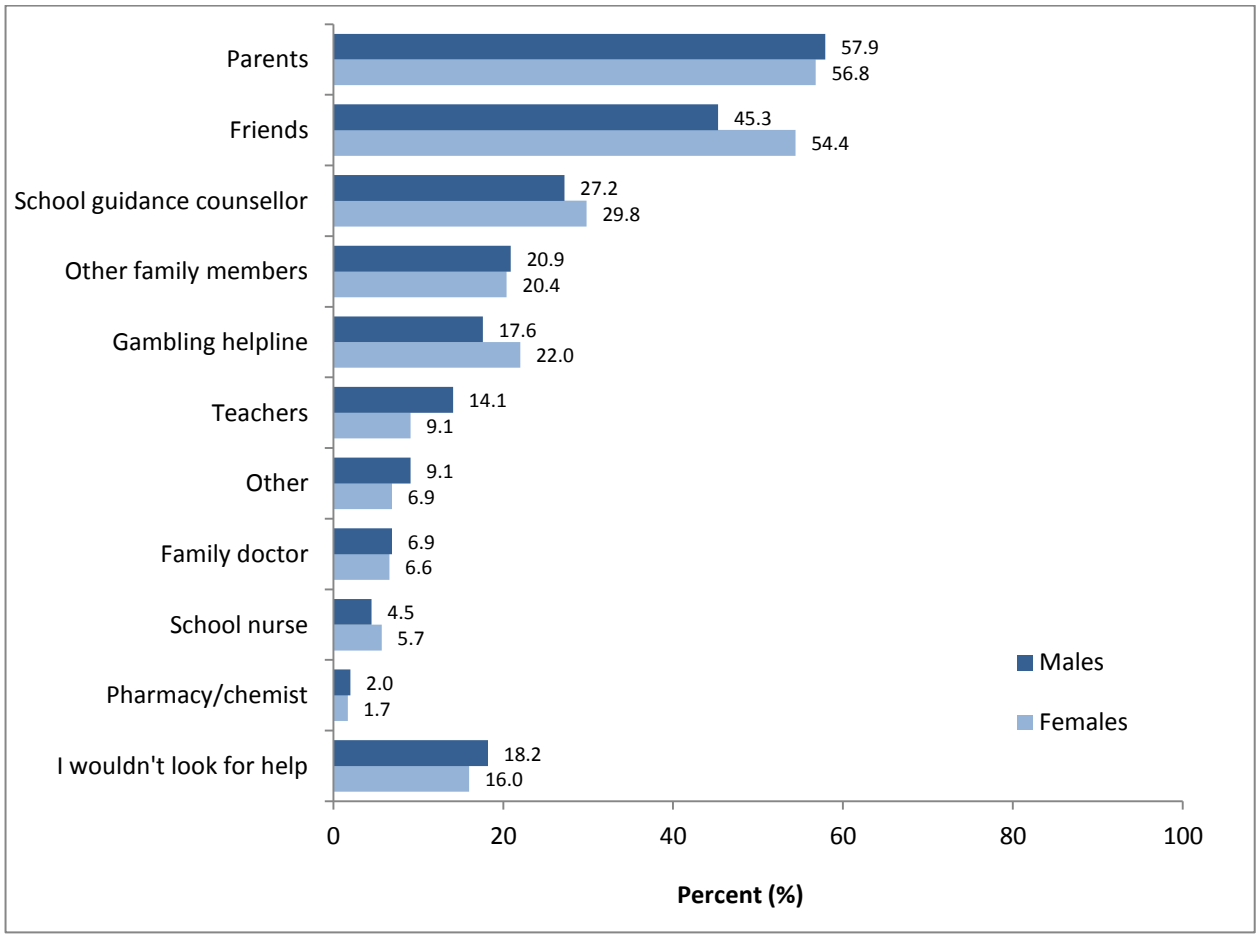
1. The percentages reported in this figure have been calculated as proportions of the students engaging in each behaviour over the past 12 months.

2. *Worried about their:* gambling (n=318), alcohol (n=307), marijuana (n=143); and, *Tried to cut down on their:* gambling (n=293), alcohol (n=486), marijuana (n=347).

6.2 Help-seeking behaviour

Students who had gambled in the past 12 months (N=2,012) were asked the following question about help-seeking: "If you had problems or concerns because of your gambling, who would you go to for help? (you may choose as many as you need)". Of the 11 options listed, the five most popular sources of help were: "Parents" (57%); "Friends" (50%); "School guidance counsellor" (29%); "Other family members (e.g. grandparent, aunts, uncles, cousins)" (21%); and, "Gambling helpline" (20%). Of note, 17% of these students selected "I wouldn't look for help". Figure 7 illustrates response rates for each of the 11 available options for males and females. While a greater proportion of females (54%) than males (45%) said they would seek help from their friends, males (14%) appeared more likely than females (9%) to say they would seek help from teachers.

Figure 7: If you had problems or concerns because of your gambling, who would you go to for help? (among students who have gambled in the last 12 months; N=2012) [1]



Note:
1. Students could choose more than one response option.

While younger students appeared more likely to see teachers and parents as potential sources of help, a greater proportion of older students indicated that they would seek help from a gambling helpline. Students from neighbourhoods with higher levels of socio-economic deprivation were more likely to seek help from teachers and less likely to seek help from a gambling helpline (when compared to their peers from neighbourhoods with lower levels of socio-economic hardship). Appendix L provides a full breakdown of help-seeking behaviour and gambling by demographic variables.

6.3 Summary: Unhealthy gambling amongst students

KEY POINTS:

- Around one-quarter (24%) of secondary school students indicated that they had gambled in the past year. Of these:
  - Sixteen percent (or approximately four percent of all secondary school students) reported being worried about the amount of time or money that they spend on gambling. These students were more likely to be male, younger, residing in urban settings and living in higher deprivation neighbourhoods.
  - Fourteen percent (or approximately four percent of all secondary school students) had tried to cut down or give up gambling. These students were more likely to be younger, living in higher deprivation neighbourhoods, and living in urban settings.

- Students were asked to specify who they would seek help from if they were concerned about their gambling. The most popular responses were parents, followed by friends, school guidance counsellors, other family members, and, the gambling helpline. A substantial proportion (17%) said they would not look for help.

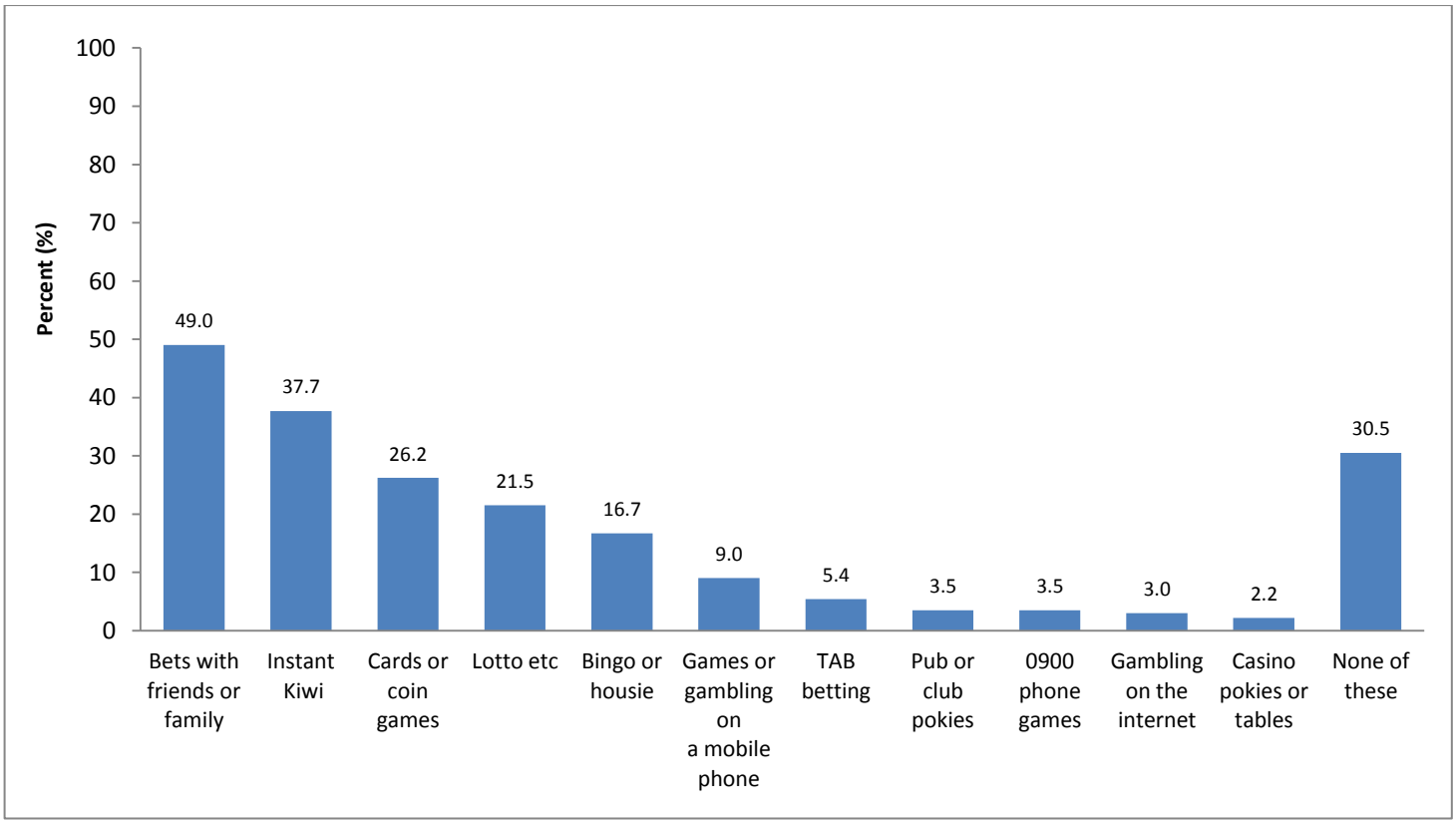
7. ATTITUDES AND MOTIVATING FACTORS TOWARDS GAMBLING

This section summarises the findings from the two questions that gathered information on students' attitudes towards gambling and students reasons for gambling.

7.1 Acceptability of gambling activities

All students were asked "Which of these do you think is okay for people your age to play or do regularly?" (N=8,027). Students could choose as many of the 12 listed gambling activities as they deemed necessary. Approximately half of the surveyed students thought that it was okay for people their own age to have "bets with friends or family" (49%). Other activities with high rates of student endorsement included "Instant Kiwi (scratchies)" (38%), "cards or coin games (e.g. poker)" (26%), "Lotto (including Strike, Powerball and Big Wednesday)" (22%), and "bingo or housie" (17%). Of note, approximately one-third of students (31%) indicated that none of the listed activities were okay for people their age to play or do regularly.

Figure 8: Which of these is it okay for people your age to play or do regularly? (among all students; N=8027) [1]



Note:
1. Students could choose more than one response option.

Female students were more likely to think that "bets with friends or family" were okay (52%) compared with male students (45%), while male students were more likely than female students to think that the following were okay: "pub or club (pokies)" (males 5%; females 3%), "a casino (e.g. roulette, pokies)" (males 3%; females 1%), "TAB betting (e.g. on track racing or sports)" (males 7%; females 4%), and "gambling on the Internet for money or prizes (e.g. Internet casinos or poker)" (males 5%; females 2%).

Greater proportions of older students thought that the following were okay for people their age to gamble on: "Instant Kiwi", "Lotto (including Strike, Powerball and Big Wednesday)", "pub or club (pokies)", "TAB betting (e.g. on track racing or sports)", and "cards or coin games (e.g. poker)".

While "bets with friends or family" and "Instant Kiwi" were more acceptable to students from neighbourhoods with lower levels of deprivation, gambling via a mobile phone and "none of these" were endorsed by greater proportions of students from higher deprivation neighbourhoods.

Appendix E provides further details on the acceptability of gambling activities, including a breakdown by demographic variables.

7.2 Reasons for gambling

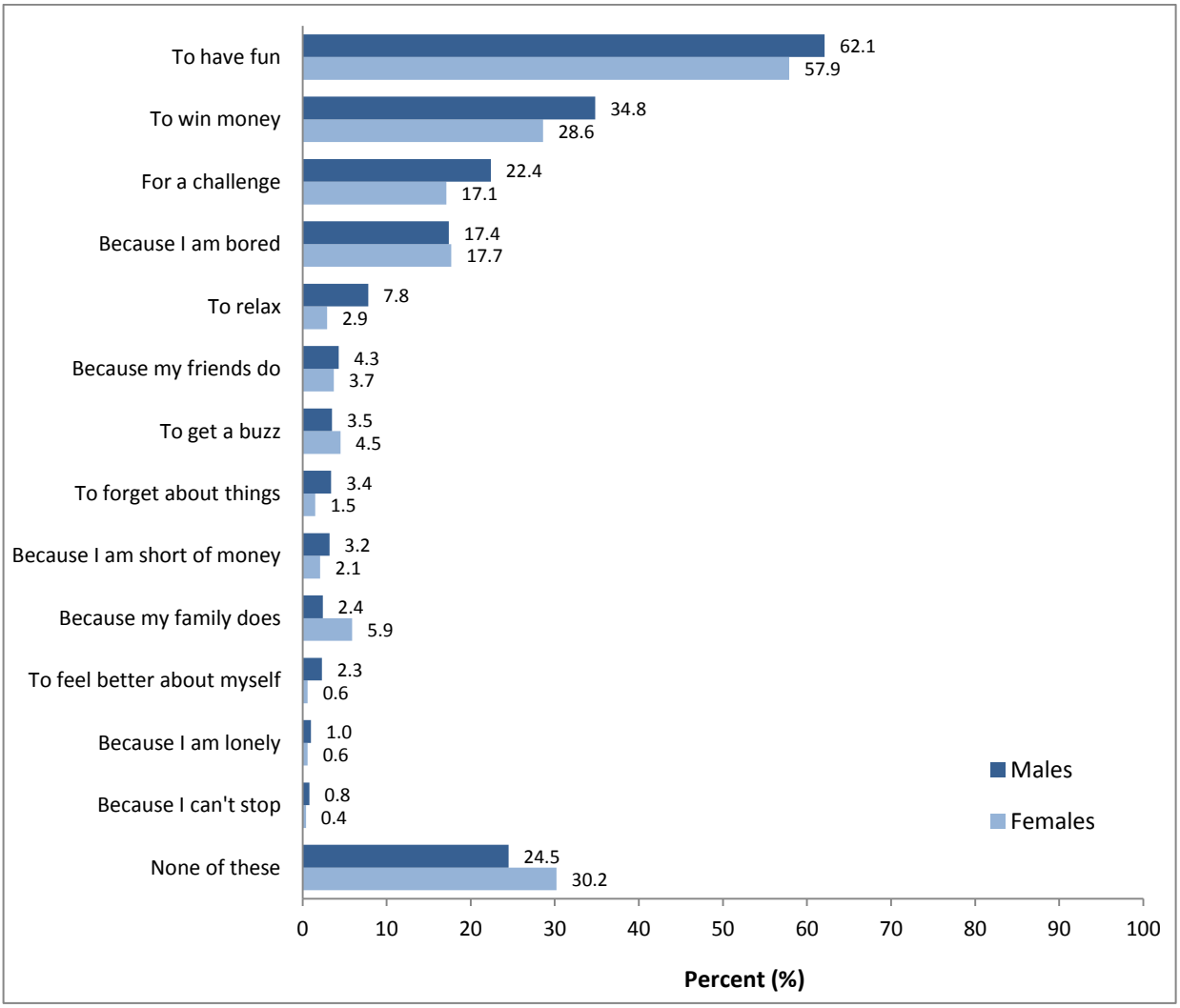
Students who had gambled in the last 12 months (N=2,091) were asked "Why do you participate in gambling or bet for money?" Thirteen options were listed and students could endorse as many as they thought appropriate; the most frequently selected responses were: "to have fun" (60%), "to win money" (32%), "for a challenge" (20%), and "because I am bored" (18%). Of note, 27% of students who had gambled responded "none of these".

While a greater proportion of females indicated that they gamble "because my family does", males seemed more likely to gamble for the following reasons: "to win money", "to relax", "to feel better about myself", and "for a challenge". Figure 9 illustrates students' reasons for gambling according to sex.

There was an overall trend for older students to gamble to "win money". No meaningful differences were observed according reasons why students gamble and level of neighbourhood socio-economic deprivation or geography (i.e. living in an urban/rural setting).

Appendix F provides further details on these analyses.

Figure 9: Reasons for gambling (among students who have gambled in the last 12 months; N=2091) [1]



Note:

1. Students could choose more than one response option.

7.2.1 Reasons for gambling - comparison of Youth'07 and Youth'12

Table 10 provides a comparison of the reasons for gambling that were reported by students in Youth'07 (N=2,196) and Youth'12 (N=2,091). The reasons selected by students were largely comparable across each wave of the survey. However, there appears to have been a decrease in the proportions of students who said that they gamble "to win money" (53% in 2007 and 32% in 2012) and "to get a buzz" (12% in 2007 and 4% in 2012)[17].

Table 10: Reasons for gambling - comparison of Youth'07 and Youth'12 (among students who have gambled in the last 12 months)

	Youth'07		Youth'12	
	n (N=2196)	% 95% CI	n (N=2091)	% 95% CI
To have fun	1458	66.5 64.3 - 68.6	1254	60.0 57.7 - 62.3
To win money	1162	53.0 50.9 - 55.1	663	31.7 29.2 - 34.3
None of these	Response option not available in Youth'07		573	27.4 25.0 - 29.7
For a challenge	538	24.5 22.2 - 26.9	413	19.7 17.9 - 21.6
Beacuase I am bored	472	21.4 19.2 - 23.5	368	17.6 15.7 - 19.4
To relax	131	6.0 4.8 - 7.1	112	5.4 4.3 - 6.4
Because my family does	101	4.6 3.6 - 5.6	88	4.2 3.3 - 5.0
Because my friends do	122	5.6 4.6 - 6.6	86	4.1 3.1 - 5.1
To get a buzz	261	11.9 10.4 - 13.3	85	4.0 2.7 - 5.4
Because I am short of money	88	4.0 3.1 - 4.8	57	2.7 1.9 - 3.5
To forget about things	82	3.7 2.9 - 4.5	53	2.5 1.7 - 3.4
To feel better about myself	65	2.9 2.2 - 3.7	32	1.5 1.0 - 2.0
Because I am lonely	Response option not available in Youth'07		19	0.9 0.5 - 1.3
Because I can't stop	35	1.6 1.0 - 2.1	14	0.6 0.3 - 1.0

[17] Formal tests of significance to compare these items across the Youth'07 and Youth'12 survey waves were not carried out as differences in the branching design of the initial gambling items in Youth'07 and Youth'12 may have resulted in different sub-samples of students answering this question. Moreover, the Youth'12 survey included two response options ("None of these" and "Because I am lonely") that were not available in the Youth'07 survey. As such, any apparent differences between the two waves should be treated with caution.

7.3 Summary: Attitudes and motivating factors towards gambling

KEY POINTS:

Students who had gambled in the last 12 months were asked a series of questions about their views on gambling.

- Participants had mixed views about the acceptability of gambling:
  - Approximately one-third of students who had gambled (31%) indicated that gambling was not okay for people their age.
  - Gambling activities that were most likely to be endorsed as being okay for people their own age to engage in were bets with friends/family; Instant Kiwi; playing cards or coin games; Lotto; and, bingo/housie. In contrast, pub/club EGMs, casino EGMS and tables, TAB betting, gambling over the internet or mobile phones, and 0900 phone games were less likely to be seen as okay.

- Participants reported diverse reasons for gambling:
  - Students choose to gamble in order to have fun, to win money, for a challenge, because they were bored, and for no particular reason (i.e. 'none of these responses').
  - When comparing the results from Youth'07 and Youth'12, students' reasons for gambling were largely comparable across each wave of the survey. However, there appears to have been a decrease in the proportions of students who said that they gamble "to win money" (53% in 2007 and 32% in 2012) and "to get a buzz" (12% in 2007 and 4% in 2012).

8. THE IMPACTS OF OTHERS' GAMBLING ON STUDENTS

Data were gathered in relation to student gambling and a variety of social and ecological factors. In particular, students were asked about the type of gambling that their parents and friends participated in and about the impact of others' gambling on them. The following section outlines results for this set of questions.

8.1 Activities that friends and parents gamble on

All students in Youth'12 were asked "Which of the following activities do your friends play or do?" Twelve options were listed and students were able to endorse as many as they felt were appropriate. The same question was then asked in relation to parents/caregivers.

Whilst a greater proportion of students (69%) indicated that their parents/caregivers had gambled on at least one of the listed activities, half of all students (50%) reported that they have friends who gamble on at least one of the modes of gambling.

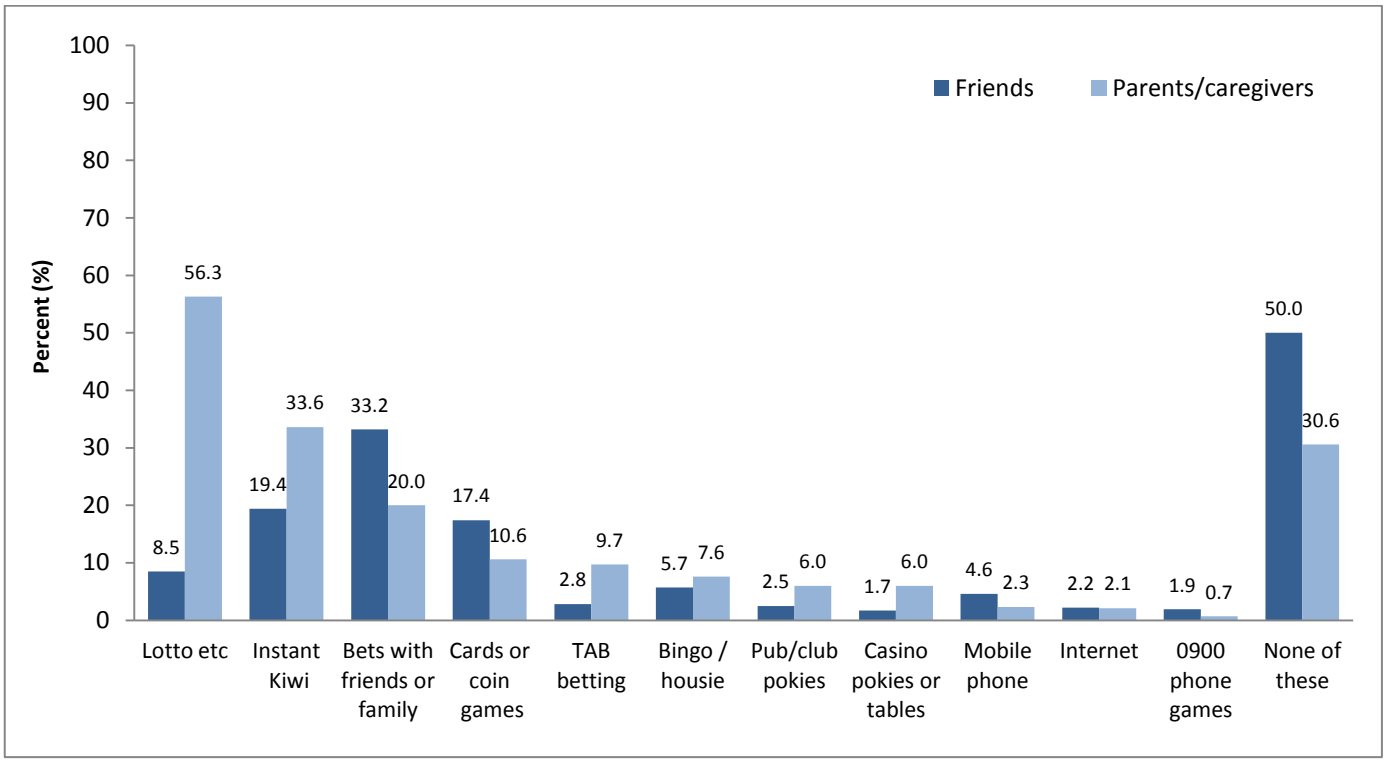
The five most frequently endorsed gambling activities in relation to both parents/caregivers and friends were: "Instant Kiwi (scratchies)"; "Lotto (including Strike, Powerball and Big Wednesday)"; "bets with friends or family"; "cards or coin games (e.g. poker)"; and "none of these". However, as indicated in Figure 10, the prevalence of these activities differed according to whether students were responding in relation to friends (e.g. the most frequent response being "none of these") or parents/caregivers (e.g. the most frequent response being "Lotto").

There was an overall trend for older students to say that their friends gambled on Lotto, pub/club pokies, casino pokies/tables, TAB betting, and cards/coin games (e.g. poker) (see Appendix H).

Students living in neighbourhoods with higher levels of deprivation were more likely to say that their friends and parents/caregivers gamble on: bingo/housie; casino pokies/tables; games/gambling on a mobile phone; 0900 phone games; pub/club pokies; and, gambling on the Internet.

Detailed results for these items (including further analyses according to demographic variables) can be found in Appendix G and Appendix H.

Figure 10: Activities that students' friends and parents gamble on (among all students; friends gambling N=7934, parents gambling N=8029) [1]

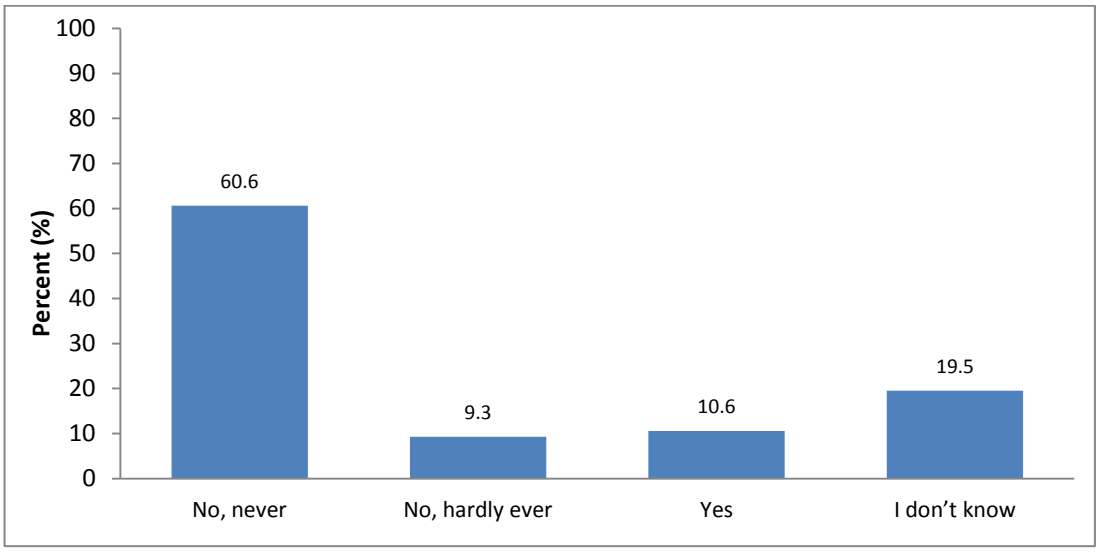


Note:
1. Students could choose more than one response option.

8.2 Students' concerns about parental gambling

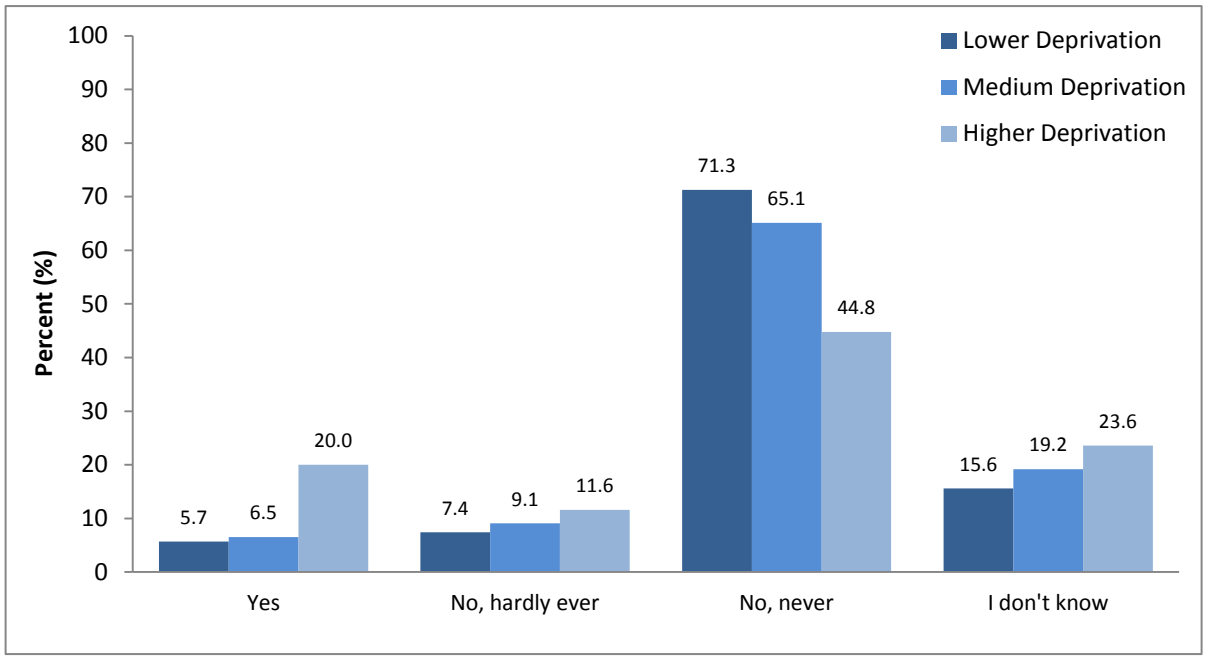
Students who had gambled in the past 12 months were asked "Do you ever worry or feel anxious about how much money or time other people you live with (parents and family), spend on gambling or any of these activities?" (N=2,072). Approximately 10% (n=220) reported that they have worried about the amount of money or time that other people they live with (e.g. parents and family) spend on gambling (see Figure 11).

Figure 11: Ever worry or feel anxious about how much money or time <u>other people you live with</u> spend gambling? (among students who have gambled in the last 12 months; N=2072)



A relationship was observed between the level of neighbourhood socio-economic deprivation and the proportion of students who were worried about the gambling behaviour of their parents/family. In particular, students from neighbourhoods with higher levels of deprivation were more likely than their counterparts to be concerned about the amount of money or time that someone they live with spent on gambling (Figure 12).

Figure 12: Ever worry or feel anxious about how much money or time other people you live with spend gambling – by neighbourhood deprivation (among students who have gambled in the last 12 months; N=2072)



Younger students appeared more likely to provide an "I don't know" response to the questions pertaining to whether they worried about the gambling behaviour of their parents/family. For instance, 25% of those aged 13 and under, compared with 14% of those aged 17 and over, selected "I don't know". No meaningful differences were observed in relation to student's sex or urban/rural setting. Appendix I provides detailed information on this item, including a breakdown of responses according to demographic variables.

8.3 Impacts of gambling within student's family over past 12 months

All students were asked "How many times in the last 12 months have these things happened in your family because of someone else's gambling:

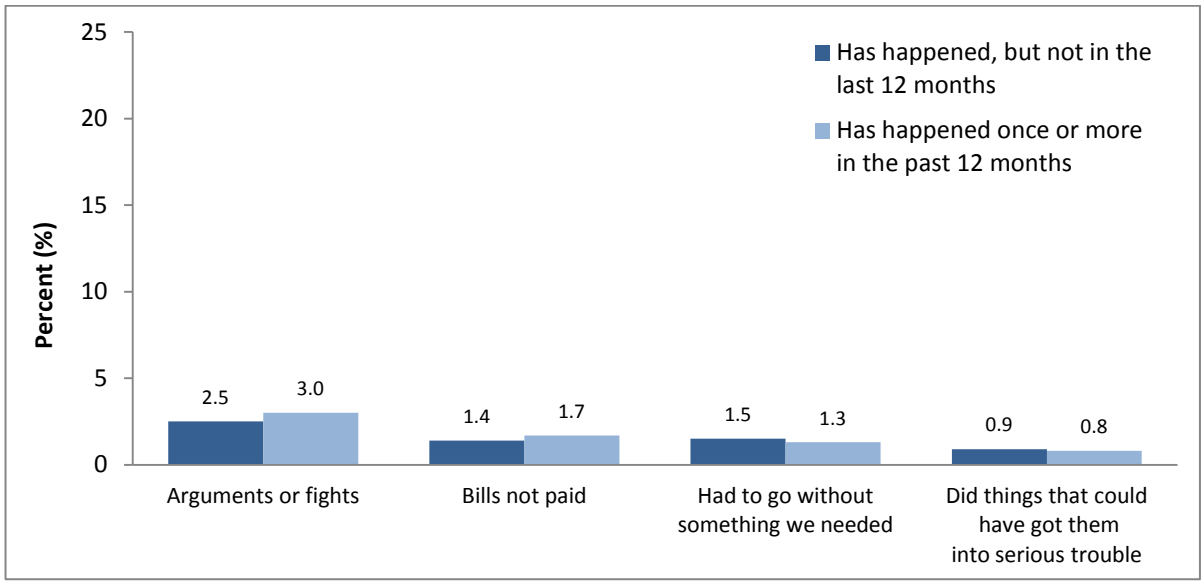
- Had arguments or fights about time or money spent on betting or gambling;
- We had to go without something we needed (e.g. food) because too much money was spent on gambling or betting;
- Some bills weren't paid because too much money was spent on gambling or betting; and,
- They did things that could have got them into serious trouble (e.g. stealing) because of gambling or these activities."

While the majority of students had never experienced these issues, a number indicated that the following issues or challenges had occurred in their family due to someone else's gambling:

- 429 students (6% of all students) indicated that there had been arguments or fights about time or money spent on gambling;
- 220 students (3% of all students) said their family had had to go without something that they needed;
- 238 students (3% of all students) indicated that some bills were not paid; and,
- 135 students (2% of all students) said that people had done things that could have got them into serious trouble (e.g. stealing).

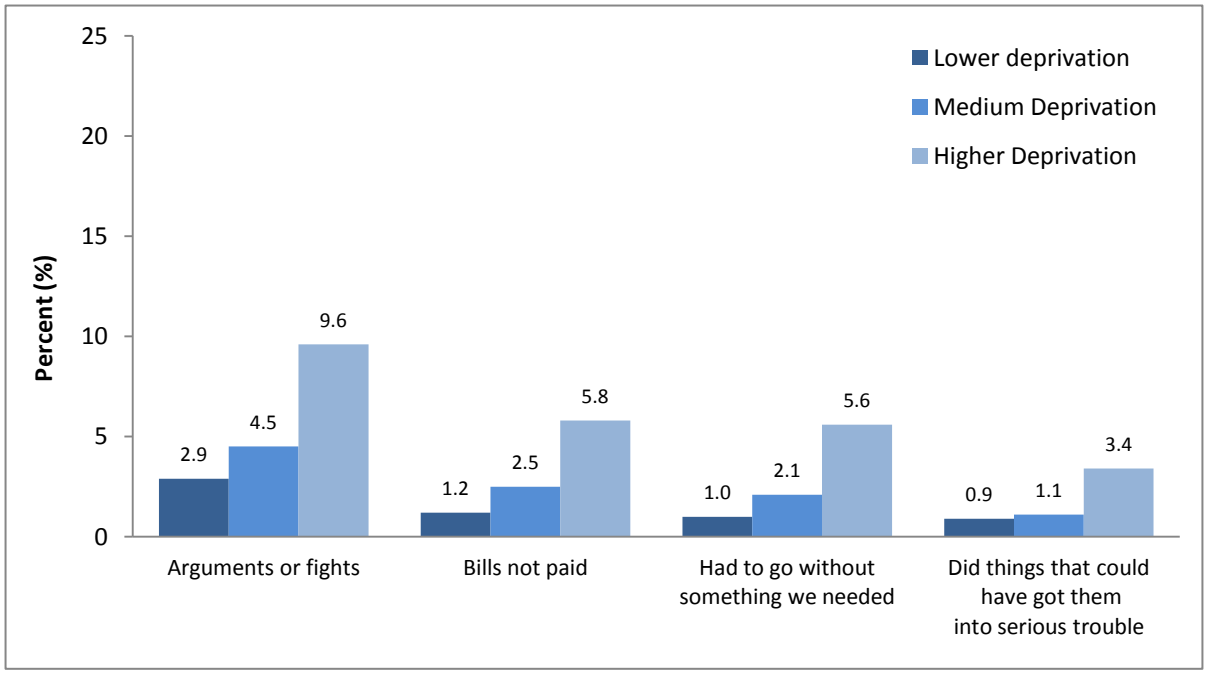
Figure 13 provides a more detailed breakdown of responses to these items.

Figure 13: How many times in the past 12 months have these things happened in your family because of someone else's gambling (among all students; N=7860)



All four of the items above appeared to relate to neighbourhood socio-economic deprivation. For instance, students living in neighbourhoods with higher levels of deprivation seemed more likely to report issues had occurred in their family because of someone else's gambling (see Figure 14).

Figure 14: Impacts of someone else's gambling by neighbourhood deprivation (among all students; N=7860)



Students living in an urban setting were more likely than their rural counterparts to say that they had to go without something they needed and that some bills were not paid because of gambling. No differences were observed by age or sex. Appendix J provides details for each of these items including a breakdown by selected demographics.

8.4 Summary: The impacts of others' gambling on students

KEY POINTS:

- Students are exposed to gambling by others:
  - Most students (69%) in Youth'12 reported that their parents had gambled in the last year.
  - Despite only one-quarter (25%) of students having gambled in the past year, half of all students (50%) say that their friends have gambled in the last year.

- The types of gambling that student's friends and family most often engaged in were: Lotto, Instant Kiwi, bets with friends or family, and cards or coin games. However there were some differences for different groups:
  - There was an overall trend for older students to say that their friends gambled on Lotto, pub/club pokies, casino pokies/tables, TAB betting, and cards/coin games.
  - Students living in neighbourhoods with higher levels of deprivation were more likely to say that their friends and parents/caregivers gamble on: bingo/housie; casino pokies/tables; games/gambling on a mobile phone; 0900 phone games; pub/club pokies; and, the Internet.

- Some students are negatively impacted by others peoples' gambling:
  - Approximately 10% of the students who had gambled in the past 12 months had worried or felt anxious about the amount of time or money that parents or family spend on gambling. Students living in neighbourhoods with higher levels of deprivation were more likely to have worried or felt anxious about others' gambling.
  - Between two and six percent of all students indicated that various problems had occurred at home as a result of someone else's gambling; the most common issue being arguments or fights about time or money spent on gambling (6%). Students living in neighbourhoods with higher levels of deprivation were more likely to report these issues.

9. RISK AND PROTECTIVE FACTORS FOR STUDENT GAMBLING

As Youth'12 did not include a formal standardised measure of problem/pathological gambling (unlike many of the studies reviewed earlier in this report), a construct to define unhealthy gambling behaviour was developed. This section provides an overview of the development of this construct, and reports on its distribution according to demographic factors. Analyses were also undertaken to explore associations between 'unhealthy gambling' behaviour and variables that may fulfil risk and/or protective functions.

9.1 Defining a construct of unhealthy gambling behaviour

In 2011, a secondary analysis of the Youth'07 gambling data (Rossen, et al., 2011) employed item response theory (IRT) to model the probability of gambling behaviours along a latent dimension of 'less unhealthy' to 'more unhealthy' gambling behaviours, thus allowing the development of a framework for evaluating which behaviours were more severe[18]. The model utilised seven indicators of unhealthy gambling, including four reasons for gambling that are consistent with escapism and/or loss of control (I gamble to relax; I gamble to feel better about myself; I gamble to forget about things; I gamble because I can't stop) and higher levels of expenditure on gambling (gambling 'several times a week' or 'most days'; spending $20 or more per week on gambling; and, spending one or more hours per day on gambling activities)[19]. This model resulted in a factor that was conceptualised as an underlying continuum of 'unhealthy' gambling behaviour. Exploratory analyses of Youth'12 data and the consistency of the relevant questionnaire items (from Youth'07 to Youth'12) indicated that it would be appropriate to utilise this model to provide a measure of 'unhealthy gambling' for the Youth'12 gambling data.

The following pages outline the subsequent analyses that were undertaken with Youth'12 data in relation to the measure of 'unhealthy gambling'; these include analyses to determine associations by population demographics (Section 9.1.1) and variables that may fulfil risk and protective functions (Section 9.2). Only students from Youth'12 who had gambled within the past 12 months (N=1849) were included in these analyses and results have been categorised in relation to the number of 'unhealthy gambling' indicators that were reported by students ('None', 'One', and 'Two or more').

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[18] The authors would like to acknowledge the expertise and significant input of Dr Simon Denny in the Youth'07 gambling IRT analyses and the development of a framework to measure an underlying continuum of 'unhealthy' gambling behaviour. These analyses have been integral in this subsequent analysis of Youht'12 data.

[19] For a full discussion of the IRT analysis undertaken with the Youth'07 gambling data see the report: Rossen, F. V., Butler, R., & Denny, S. (2011). *An Exploration of Youth Participation in Gambling and the Impact of Problem Gambling on Young People in New Zealand.* Auckland: Centre for Gambling Studies, Auckland UniServices Limited, The University of Auckland (a report prepared for the Ministry of Health).

9.1.1 Distribution of 'unhealthy gambling' by population demographics

Table 11 provides an overview of the distribution of the number of indicators for 'unhealthy gambling' that were reported by students and a breakdown of this distribution by demographic variables. While the majority of students who had gambled in the last 12 months did not report any indicators of 'unhealthy gambling' (84%, n=1557), approximately one-tenth (11%, n=203) were noted to have one indicator and approximately five percent (n=89) reported two or more indicators of 'unhealthy gambling'. Significant interactions were observed between the number of 'unhealthy gambling' indicators and a number of demographic variables:

- *Sex* – greater proportions of males than females reported unhealthy gambling;
- *Ethnicity* – significantly lower proportions of NZ European than Māori, Pacific and Asian students reported indicators of unhealthy gambling;
- *Neighbourhood deprivation* – students living in neighbourhoods with higher levels of deprivation were more likely than students living in lower deprivation neighbourhoods to report unhealthy gambling;
- *Geography* – students residing in urban neighbourhoods were more likely than students living in rural settings to report unhealthy gambling.

Table 11: Indicators of 'unhealthy gambling' – distribution and demographics (among students who have gambled in the last 12 months; N=1849)

		Number of Unhealthy Gambling Indicators						P value
		None		One		Two or More		
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	
Total		1557 (1849)	84.26 81.86 - 86.67	203 (1849)	10.96 9.17 - 12.74	89 (1849)	4.78 3.53 - 6.03	n/a
By Sex	Male	702 (889)	79.09 76.14 - 82.04	124 (889)	13.91 11.53 - 16.30	63 (889)	7.00 5.32 - 8.67	<.0001
	Female	855 (959)	89.17 86.40 - 91.94	79 (959)	8.21 5.98 - 10.44	25 (959)	2.62 1.36 - 3.87	
By Age	13 and under	330 (396)	83.29 79.15 - 87.44	50 (396)	12.79 9.08 - 16.49	16 (396)	3.92 2.12 - 5.71	0.557
	14	327 (395)	82.91 78.42 - 87.41	44 (395)	11.03 7.69 - 14.36	24 (395)	6.06 3.56 - 8.56	
	15	308 (367)	83.96 80.64 - 87.29	40 (367)	10.84 8.19 - 13.49	19 (367)	5.20 2.70 - 7.70	
	16	295 (351)	84.17 80.66 - 87.69	39 (351)	11.06 7.76 - 14.35	17 (351)	4.77 2.63 - 6.91	
	17 and over	294 (336)	87.53 83.31 - 91.75	29 (336)	8.58 5.53 - 11.63	13 (336)	3.89 1.47 - 6.31	
By Ethnicity	NZ European	821 (903)	90.86 88.98 - 92.75	66 (903)	7.32 5.53 - 9.10	16 (903)	1.82 0.74 - 2.89	<.0001
	Māori	290 (367)	79.47 75.18 - 83.75	53 (367)	14.20 10.67 - 17.73	24 (367)	6.33 3.64 - 9.02	
	Pacific	178 (253)	70.41 66.09 - 74.73	50 (253)	19.72 15.83 - 23.62	25 (253)	9.87 6.48 - 13.25	
	Asian	177 (217)	81.48 76.76 - 86.21	24 (217)	11.17 6.63 - 15.71	16 (217)	7.35 3.56 - 11.14	
	Other	91 (108)	84.50 77.55 - 91.44	10 (108)	9.33 2.84 - 15.81	7 (108)	6.18 1.78 - 10.57	
By NZDep2006	Lower	564 (627)	89.93 87.50 - 92.37	47 (627)	7.54 5.45 - 9.63	16 (627)	2.53 1.36 - 3.69	<.0001
	Medium	560 (654)	85.67 82.91 - 88.43	61 (654)	9.32 6.98 - 11.66	33 (654)	5.01 3.28 - 6.74	
	Higher	419 (550)	76.29 72.75 - 79.83	92 (550)	16.64 13.56 - 19.71	39 (550)	7.07 4.97 - 9.18	
By Geography	Urban	1289 (1547)	83.34 80.75 - 85.93	179 (1547)	11.55 9.59 - 13.51	79 (1547)	5.11 3.74 - 6.48	0.0062
	Rural	254 (284)	89.83 86.69 - 92.97	21 (284)	7.26 4.53 - 9.98	9 (284)	2.91 1.08 - 4.74	

9.2 Identification of risk and protective factors for 'unhealthy gambling'

This section outlines results from a series of logistic regressions (Phase One) and multiple logistic regressions (Phases Two and Three) that were carried out to explore associations between 'unhealthy gambling' behaviour and variables that may fulfil risk and/or protective functions.

9.2.1 Phase one - logistic regressions

A series of logistic regressions were carried out to determine associations between 'unhealthy gambling' behaviour (as measured by the construct of 'unhealthy gambling' behaviour that was described previously) and variables that were hypothesised as having the potential to either increase the risk of or protect/moderate against unhealthy gambling. Following the identification of significant interactions between the measure of 'unhealthy gambling' and several demographic variables (as detailed in Table 11) each logistic regression controlled for the effects of age, sex, neighbourhood socio-economic deprivation, geography (urban/rural), and ethnicity. In total, 44 variables were selected for inclusion in this set of analyses. These variables were identified through a review of the literature and consultation with the study's advisory group. The variables covered a wide variety of topics, including:

- Impacts of someone else's gambling (e.g. parents gambling);
- Aspects of student's gambling behaviour:
  - Who student normally gambles with
  - Whether or not parents and friends gamble
  - Acceptability of gambling activities
  - Type of gambling activities that student participates in
- Involvement in other risky behaviours (use of alcohol, cigarettes, marijuana);
- Emotional health (suicide attempts and depression (RADS – Reynolds Adolescent Depression Screen));
- Wellbeing (WHO-5 Wellbeing Index);
- Parents and friends substance use;
- Violence in the home;
- Truancy from school;
- Use of computer games and the Internet;
- Support from an adult outside of their family;
- Engagement in community activities;
- Spiritual beliefs;
- Knowledge of ethnic group; and,
- Social connectedness to family, friends, and school.

Table 12 provides results from the logistic regressions between the measure of 'unhealthy gambling' behaviour and each of the hypothesised risk/protective factors. A breakdown is provided for each potential risk/protective factor according to the percentage of students with 'none', 'one', and 'two or more' of the 'unhealthy gambling' indicators. Details are also provided on the level of significance for the associations (i.e. p-values), and for those items where the association was significant, the table indicates if the item performs a 'risk' or 'protective' function in relation to 'unhealthy gambling' behaviour.

For example, 14% of the students with no indicators of 'unhealthy gambling' said they have been worried or felt anxious about the amount of time or money they spend gambling and/or have tried to cut down on gambling. This compares to 39% of those with one indicator of 'unhealthy gambling' and 56% of those with two or more indicators. This item was found to be a significant risk factor for unhealthy gambling ($p<.0001$); therefore students who had gambled and had worried about their gambling and/or had tried to cut down on this were significantly more likely to have gambled at unhealthy levels.

In total, 24 items were significantly associated with 'unhealthy gambling' behaviour; 22 variables were associated with an increased risk and two variables moderated / protected against the risk of 'unhealthy gambling' behaviour. See Table 12 for details.

Table 12: Identification of variables that perform risk or protective functions for problematic gambling – logistic regressions (among students who have gambled in the last 12 months; N=1849)

Categorical variables		Number of Unhealthy Gambling Indicators [1]						P value [2]	Risk / Protective
		None		One		Two or More			
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI		
Total		1557 (1849)	84.26 81.86 - 86.67	203 (1849)	10.96 9.17 - 12.74	89 (1849)	4.78 3.53 - 6.03	n/a	n/a
Student has worried about the amount of time or money they spend gambling and/or have tried to cut down on gambling		218 (345)	14.32 10.78 - 17.87	77 (345)	39.15 31.89 - 46.41	50 (345)	55.87 45.12 - 66.62	<.0001	Risk
Student has worried or felt anxious about how much money or time other people they live with spend gambling?		117 (188)	7.54 5.72 - 9.36	40 (188)	19.68 14.49 - 24.86	31 (188)	34.88 24.48 - 45.28	<.0001	Risk
Impacts in students' family - things that have happened in the past 12 months because of someone else's gambling:	Arguments or fights about time or money spent on gambling	88 (139)	5.71 4.38 - 7.04	29 (139)	14.59 9.49 - 19.68	22 (139)	25.90 16.19 - 35.62	<.0001	Risk
	Had to go without something that was needed (e.g. food)	44 (94)	2.86 1.81 - 3.91	27 (94)	13.45 8.46 - 18.43	23 (94)	27.07 18.11 - 36.03	<.0001	Risk
	Some bills weren't paid	44 (90)	2.87 1.95 - 3.79	26 (90)	12.95 7.77 - 18.12	20 (90)	23.54 15.03 - 32.04	<.0001	Risk
	They did things that could have got them in serious trouble (e.g. stealing)	22 (62)	1.42 0.84 - 2.00	20 (62)	9.90 5.30 - 14.50	20 (62)	23.54 14.85 - 32.24	<.0001	Risk
Student usually gambles with:	Friends	1013 (1206)	67.58 64.98 - 70.19	138 (1206)	71.08 63.58 - 78.57	55 (1206)	62.58 53.41 - 71.76	0.17	-
	Family	950 (1104)	63.46 60.57 - 66.35	109 (1104)	55.92 48.08 - 63.77	45 (1104)	51.32 42.70 - 59.93	0.15	-
	Other people they know	49 (88)	3.25 2.16 - 4.34	21 (88)	10.90 7.19 - 14.61	18 (88)	20.96 12.37 - 29.56	<.0001	Risk
	Other people they don't know (e.g. people online)	22 (42)	1.47 0.77 - 2.16	8 (42)	3.91 0.86 - 6.95	12 (42)	14.05 6.95 - 21.15	<.0001	Risk
	On their own	103 (136)	6.77 5.34 - 8.20	18 (136)	9.36 5.02 - 13.69	15 (136)	17.06 9.27 - 24.86	0.078	-
Students' friends gamble		1056 (1273)	68.85 66.30 - 71.41	149 (1273)	74.36 68.60 - 80.11	68 (1273)	77.00 66.63 - 87.37	0.020	-
Students' parents gamble		1257 (1500)	81.18 78.91 - 83.44	164 (1500)	81.46 75.12 - 87.80	79 (1500)	89.05 82.74 - 95.36	0.044	-
Student thinks that 2 or more of the listed gambling activities are acceptable for people their age to play or do regularly		632 (773)	46.89 44.10 - 49.68	82 (773)	49.70 41.44 - 57.96	59 (773)	76.34 67.86 - 84.82	<.0001	Risk
Activities that the student has gambled on in last 12 months:	Instant Kiwi / Lotto / Bingo or Housie	690 (832)	44.26 41.95 - 46.56	95 (832)	46.10 39.81 - 52.39	47 (832)	52.69 41.07 - 64.30	0.11	-
	Pub or club EGMs / Casino EGMs or tables / TAB betting	135 (218)	8.59 6.85 - 10.34	51 (218)	24.98 19.49 - 30.47	32 (218)	35.49 26.20 - 44.77	<.0001	Risk
	Gambling on the Internet or mobile phone / 0900 phone games	89 (174)	5.72 4.30 - 7.15	45 (174)	22.41 15.68 - 29.14	40 (174)	44.72 33.30 - 56.13	<.0001	Risk
	Bets with friends or family / Cards or coin games (e.g. poker)	1144 (1382)	73.44 71.10 - 75.78	163 (1382)	80.51 74.78 - 86.23	75 (1382)	84.23 76.61 - 91.85	0.11	-
Students' involvement in other 'risky' behaviours:	Drank alcohol at least once a week (in the last four weeks)	167 (209)	10.67 8.94 - 12.40	19 (209)	9.18 5.06 - 13.30	23 (209)	25.53 15.81 - 35.26	<.0001	Risk
	Binge drinking on at least one occasion (in the last four weeks)	449 (542)	28.68 25.79 - 31.56	60 (542)	29.49 22.68 - 36.30	33 (542)	36.80 25.36 - 48.24	0.053	-
	Smoke cigarettes once a week or more often	65 (97)	4.14 3.24 - 5.05	15 (97)	7.48 3.25 - 11.70	17 (97)	18.81 10.97 - 26.66	<.0001	Risk
	Used marijuana at least once a week (in the last four weeks)	51 (75)	3.26 2.17 - 4.35	12 (75)	6.00 3.14 - 8.87	12 (75)	13.23 6.73 - 19.73	0.0102	-
Emotional health	Depression (RADS - Reynolds Adolescent Depression Scale)	193 (247)	12.57 10.43 - 14.70	29 (247)	14.71 10.33 - 19.09	25 (247)	31.29 20.02 - 42.55	<.0001	Risk
	Suicide (attempted in last 12 months)	55 (101)	3.56 2.52 - 4.59	26 (101)	12.91 7.63 - 18.20	20 (101)	22.00 13.85 - 30.15	<.0001	Risk
Wellbeing (WHO-5 Wellbeing Index)	Excellent / Very Good / Good	1166 (1371)	75.19 72.66 - 77.73	149 (1371)	73.88 67.83 - 79.94	56 (1371)	63.01 53.07 - 72.95	<.0001	Protective
	Poor	383 (470)	24.81 22.27 - 27.34	54 (470)	26.12 20.06 - 32.17	33 (470)	36.99 27.05 - 46.93	<.0001	Risk

Parents substance use:	Parents drink alcohol	1024 (1196)	65.98 62.80 - 69.15	121 (1196)	59.38 51.87 - 66.89	51 (1196)	58.59 48.75 - 68.42	0.96	-
	Parents use marijuana	93 (124)	6.02 4.77 - 7.27	16 (124)	7.79 4.01 - 11.58	15 (124)	16.24 8.01 - 24.47	0.076	-
Friends substance use:	Friends drink alcohol	958 (1138)	61.58 58.08 - 65.09	120 (1138)	59.38 51.36 - 67.40	60 (1138)	67.13 57.97 - 76.29	0.18	-
	Friends use marijuana	620 (754)	39.90 36.95 - 42.86	90 (754)	44.17 36.84 - 51.49	44 (754)	48.66 36.53 - 60.78	0.073	-
Violence in the home (in the last 12 months) and bullying	Student has witnessed an adult hitting or physically harming someone else	245 (343)	16.11 13.75 - 18.48	63 (343)	32.49 25.79 - 39.20	35 (343)	41.69 31.43 - 51.94	<.0001	Risk
	Student has been hit or physically harmed in their home	205 (284)	13.27 11.53 - 15.02	49 (284)	25.05 19.43 - 30.68	30 (284)	34.86 25.19 - 44.53	<.0001	Risk
	Student has been bullied at least once a week (in this school year)	95 (126)	6.06 4.92 - 7.20	18 (126)	8.95 4.30 - 13.60	13 (126)	14.33 7.28 - 21.38	<.0001	Risk
Student has been truant from school (for a full day) in last 12 months		373 (488)	24.02 21.47 - 26.56	73 (488)	35.76 29.16 - 42.36	42 (488)	46.45 35.67 - 57.23	<.0001	Risk
Students' use of the Internet and computer games	Uses the Internet for three or more hours a day	549 (694)	35.60 32.93 - 38.28	94 (694)	46.92 40.48 - 53.35	51 (694)	58.66 47.15 - 70.17	<.0001	Risk
	Plays computer or electronic games for three or more hours a day	291 (400)	18.90 16.15 - 21.66	68 (400)	34.01 27.21 - 40.82	41 (400)	46.61 35.87 - 57.34	<.0001	Risk
Student has an adullt (outside of the family) that they can talk to about serious problems		966 (1130)	62.33 59.84 - 64.82	119 (1130)	59.77 52.31 - 67.23	45 (1130)	52.69 43.32 - 62.06	0.14	-
Student gives time (volunteers) to help others in their community		339 (421)	25.61 23.02 - 28.21	55 (421)	34.60 26.01 - 43.20	27 (421)	37.34 28.32 - 46.36	0.12	-
Student belongs to a group not run by school (e.g. a sports team or clutrual group)		1098 (1305)	70.88 68.39 - 73.37	141 (1305)	71.32 64.64 - 78.00	66 (1305)	74.67 64.44 - 84.89	0.87	-
Students spiritual beliefs are very important to them		342 (443)	22.23 18.08 - 26.38	66 (443)	33.26 24.58 - 41.95	35 (443)	40.72 29.77 - 51.67	0.079	-
Student is satisfied with their knowledge of their ethnic group		917 (1121)	58.84 56.69 - 60.99	139 (1121)	69.19 60.89 - 77.49	65 (1121)	74.63 65.73 - 83.54	0.016	-

Continuous variables		**Number of Unhealthy Gambling Indicators [1]**						**P value [2]**	**Risk / Protective**
		None		**One**		**Two or More**			
		n (N)	**Median 95 percentiles**	n (N)	**Median 95 percentiles**	n (N)	**Median 95 percentiles**		
Social connectedness	Family	1557 (1849)	0.09 -1.31 - 0.86	203 (1849)	-0.08 -1.33 - 0.86	89 (1849)	-0.16 -1.75 - 0.72	<.0001	Protective
	Friends	1557 (1849)	0.30 -1.54 - 0.61	203 (1849)	0.26 -1.26 - 0.61	89 (1849)	-0.01 -1.64 - 0.61	0.022	-
	School	1557 (1849)	-0.02 -0.99 - 0.80	203 (1849)	0.00 -0.80 - 0.84	89 (1849)	-0.07 -1.38 - 1.04	0.012	-

Notes:

1. Based on the construct of unhealthy gambling behaviour (as outlined in Section 9.1).
2. Analyses have controlled for sex, age, socioeconomic deprivation, geography (urban/rural), and ethnicity.

9.2.2 Phase two – multiple logistic regressions

Phase Two in the process of identifying risk and protective factors entailed multiple logistic regressions between the measure of 'unhealthy gambling' and all of the variables that fulfilled significant risk/protective functions – as identified in Phase One. The aim of Phase Two was to determine if the items identified as performing risk/protective functions would continue to maintain these functions in the presence of each other. For example, would positive wellbeing continue to be protective in the presence of risk factors such as depression and violence in the home?

Table 13 provides details on the results of these multiple logistic regressions. Of the 24 items that were significantly associated with 'unhealthy gambling' behaviour in Phase One (22 that were associated with an increased risk and two that were associated with a decreased risk i.e. they were protective), only five maintained a significant association in the presence of all the other items that performed risk or protective functions. All five of these items (see Table 13) were associated with an increased risk of 'unhealthy gambling'; students with indicators of unhealthy gambling were significantly more likely than other students who gamble to report the following:

- Someone in their family had done something that could have got them in serious trouble (e.g. stealing);
- That they usually gamble with 'someone else' that they know (i.e. not with friends or family members, but with people they don't know (such as people online));
- That two or more of the listed gambling activities were acceptable for people their age to play or do regularly;
- That they have gambled on pub/club EGMs, casino EGMs or tables, or TAB betting in the last 12 months;
- That they had attempted suicide in the last 12 months.

The two variables (positive wellbeing and social connectedness to family) identified as performing a protective function against 'unhealthy gambling' in Phase One did not maintain a protective role in the presence of variables that increased the risk of 'unhealthy gambling'.

Table 13: Identification of variables that perform risk or protective functions for problematic gambling – multiple logistic regressions (among students who have gambled in the last 12 months; N=1849)

Categorical variables		**Phase One: Risk / Protective**	**P value [1]**	**Phase Two: Risk / Protective**
Student has worried or felt anxious about how much money or time other people they live with spend gambling?		Risk	0.02	-
Impacts in students' family - things that have happened in the past 12 months because of someone else's gambling:	Arguments or fights about time or money spent on gambling	Risk	0.50	-
	Had to go without something that was needed (e.g. food)	Risk	0.67	-
	Some bills weren't paid	Risk	0.61	-
	They did things that could have got them in serious trouble (e.g. stealing)	Risk	0.0067	Risk
Student usually gambles with:	Other people they know (i.e. not friends or family)	Risk	0.0038	Risk
	Other people they don't know (e.g. people online)	Risk	0.05	-
Student thinks that 2 or more of the listed gambling activities are acceptable for people their age to play or do regularly		Risk	<.0001	Risk
Activities that the student has gambled on in last 12 months:	Pub or club EGMs / Casino EGMs or tables / TAB betting	Risk	0.0017	Risk
	Gambling on the Internet or mobile phone / 0900 phone games	Risk	0.011	-
Students' involvement in other 'risky' behaviours:	Drank alcohol at least once a week (in the last four weeks)	Risk	0.45	-
	Smoke cigarettes once a week or more often	Risk	0.59	-
Emotional health	Depression (RADS - Reynolds Adolescent Depression Scale)	Risk	0.14	-
	Suicide (attempted in last 12 months)	Risk	0.0007	Risk
Wellbeing (WHO-5 Wellbeing Index)	Excellent / Very Good / Good	Protective	0.69	-
	Poor	Risk	0.69	-
Violence in the home (in the last 12 months) and bullying	Student has witnessed an adult hitting or physically harming someone else	Risk	0.52	-
	Student has been hit or physically harmed in their home	Risk	0.91	-
	Student has been bullied at least once a week (in this school year)	Risk	0.67	-
Student has been truant from school (for a full day) in last 12 months		Risk	0.93	-
Students' use of the Internet and computer games	Uses the Internet for three or more hours a day	Risk	0.29	-
	Plays computer or electronic games for three or more hours a day	Risk	0.69	-
Continuous variables		**Phase One: Risk / Protective**	**P value [1]**	**Phase Two: Risk / Protective**
Social connectedness	Family	Protective	0.20	-

Note:
1. Analyses have controlled for sex, age, socioeconomic deprivation, geography (urban/rural), and ethnicity.

9.2.3 Phase three – sensitivity analysis

The third phase of exploring and identifying variables that perform a risk and/or protective function with regard to 'unhealthy gambling' entailed a sensitivity analysis. Multiple logistic regressions were used to check that the associations between the outcome variable ('unhealthy gambling') and the variables that were included in Phase Two (due to significant associations with the outcome variable) were not affected as a consequence of inter-item correlations. The sensitivity analysis did not identify any issues, thus confirming and further supporting the results outlined in Phase One and Phase Two.

9.3 Summary: Identification of risk and protective factors for student gambling

KEY POINTS:

- As Youth'12 did not include a formal standardised measure of problem/pathological gambling, a construct to define 'unhealthy gambling' behaviour was developed.
- Data were gathered on a number of indicators for 'unhealthy gambling', including reasons for gambling that centred on escapism and/or loss of control (e.g. 'I gamble because I can't stop'), and higher levels of expenditure on gambling (gambling 'several times a week' or 'most days'; spending $20 or more per week on gambling; and, spending one or more hours per day on gambling activities).
  - While the majority of students who had gambled in the last 12 months (84%) did not report any indicators of 'unhealthy gambling' behaviour, 11% reported one indicator, and 5% reported two or more indicators.
  - A number of demographic factors were significantly associated with an elevated risk of unhealthy gambling, students who were: male; from non-New Zealand European ethnic groups; and, students living in neighbourhoods with higher levels of deprivation were significantly more likely than their counterparts to report issues that were indicative of unhealthy gambling.

- The exploration of risk and protective factors associated with student gambling consisted of two phases:
  - Phase one of the analyses found that 22 variables were associated with an increased risk of 'unhealthy gambling' behaviour and two variables protected against the risk of 'unhealthy gambling' behaviour.
  - Phase two of the analyses found that:
    - None of the investigated items maintained a protective role in the presence of variables that increased the risk of 'unhealthy gambling'.
    - Five items continued to be associated with an increased risk of 'unhealthy gambling':
      1. Someone in their family had done something that could have got them in serious trouble (e.g. stealing);
      2. They usually gamble with 'someone else' that they know (i.e. not with friends and family members but with people they don't know e.g. people online);
      3. They have more accepting attitudes towards gambling (i.e. thinking that two or more of the listed gambling activities were acceptable for people their age to play or do regularly);
      4. They have gambled on pub/club EGMs, casino EGMs or tables, or TAB betting in the last 12 months; and,
      5. They had attempted suicide in the last 12 months. None of the investigated items maintained a protective role in the presence of variables that increased the risk of 'unhealthy gambling'.

10. GAMBLING AND MĀORI TAITAMARIKI IN AOTEAROA

This section presents key findings on the gambling behaviours of Māori young people living in Aotearoa. The results are drawn from the Youth'12 nationally representative survey of secondary school students, conducted in 2012. Youth'12 surveyed a large randomly-selected sample of secondary school students. The results provided here are based on the 1701 students who were categorised as Māori[20] and some comparisons are made to the 4024 students categorised as New Zealand European from Youth'12.

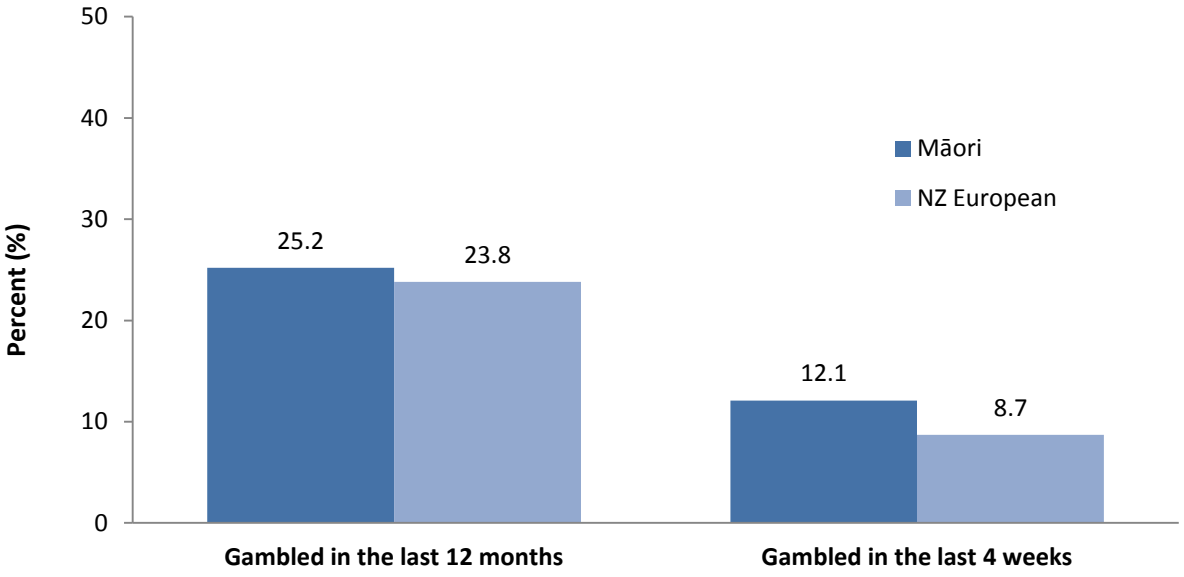
10.1 Youth gambling behaviours

The Youth'12 survey showed that:

- A quarter (25%) of Māori students had gambled in the last 12 months (375 Māori students). Of those Māori who had gambled in the previous 12 months, almost half (or 12% of the entire Māori student population) had gambled in the last four weeks (180 students).
- A similar proportion of Māori students reported gambling in the last 12 months when compared to NZ European students (25%, 375 Māori students and 24%, 916 NZ European students). A significantly higher proportion of Māori had gambled in the last four weeks (12%) compared to NZ European students (9%, 335 NZ European students) ($p=0.0073$).
- A small proportion of Māori students (21 students) who gamble spend $20 or more in a typical week gambling (6%) and fewer still Māori students (8 students) who gamble, usually do so for 30 or more minutes per day (2%).
- Of the Māori students who had gambled, 78 students were worried about how much time or money they spent gambling (18%), whereas a significantly lower proportion of New Zealand European students (6%, 59 students) who had gambled were worried about this ($p<0.0001$).

[20] Based on the Statistics New Zealand ethnicity prioritisation method (Lang, 2002), i.e. the method used consistently throughout this report. For total ethnic reporting, 6,250 students were categorised as New Zealand European and 1,701 students were categorised as Māori.

Figure 15: Gambling over past year and past month for Māori and NZ European students (among all Māori and NZ European students; n=5344)



10.2 Parent/caregiver gambling behaviour

Seventy-two percent of Māori students report that their caregiver gambles (1123 Māori students) and 15% were worried about the gambling behaviours of others they lived with (64 Māori students).

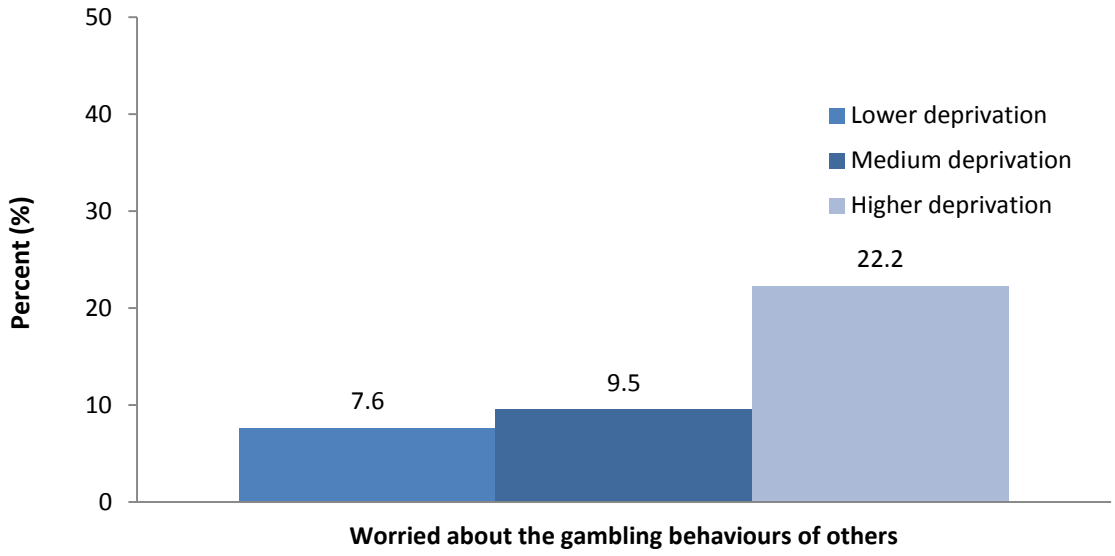
Compared to New Zealand European students, the same proportion of Māori and New Zealand European students (72%) reported that their parent or caregiver gambles (2826 New Zealand European students).

A significantly greater proportion of Māori students (15% or 64 Māori students) than New Zealand European students (5% or 45 New Zealand European students) had worried about the gambling behaviours of others they live with (e.g. parents or caregivers gambling) in the last 12 months ($p<0.0001$).

10.3 Socioeconomic factors and gambling

Higher levels of socioeconomic deprivation appeared to be linked to gambling. In particular, a greater proportion (nearly a quarter) of Māori students from neighbourhoods with higher levels of socioeconomic hardship (based on the NZ Deprivation Index), were likely to be worried about the gambling behaviour of others relative to those experiencing less socio-economic deprivation ($p<0.0001$).

Figure 16: Socioeconomic deprivation and gambling (among all Māori students; n=428)



10.4 Summary: Gambling and Māori Taitamariki in Aotearoa

KEY POINTS:

- One-quarter (25%) of Māori students had gambled in the last year, and 12% had gambled in the last four weeks. Of those who had gambled in the past year, very few had spent more than $20 per week (6%) or more than 30 minutes a day gambling (2%).

- Rates of gambling in the last 12 months were similar amongst Māori and NZ European students (25% and 24% respectively), although Māori students were more likely to have gambled in the last 4 weeks (12% and 9% respectively).

- Māori students were much more likely to be worried about their gambling than NZ European students (18% of Māori and 6% of NZ European students *who had gambled in the past year*).

- 72% of Māori students reported that their parent(s)/caregiver(s) gamble and 15% were worried about their parent/caregiver's gambling. A number of Māori young people and/or their whānau encounter problems due to gambling. Students living in neighbourhoods with higher levels of deprivation were more likely than those from lower deprivation neighbourhoods to worry about the gambling behaviour of other people (22% higher deprivation and 8% lower deprivation).

11. GAMBLING AND PACIFIC YOUNG PEOPLE IN NEW ZEALAND

This section presents key findings on the gambling behaviours of Pacific young people living in New Zealand. The results are drawn from the Youth'12 nationally representative survey of secondary school students, conducted in 2012. Youth'12 surveyed a large randomly-selected sample of secondary school students. The results provided here are based on the 1201 students who were categorised as Pacific[21] and some comparisons are made to the 4024 students categorised as New Zealand European from Youth'12. Pacific young people included students who identified as Samoan, Cook Island Māori, Tongan, Niuean, Tokelauan, Fijian or 'Other Pacific Peoples'. **Pacific students therefore constitute a range of different ethnic groups, and as such there may be meaningful differences in relation to gambling and the various Pacific ethnic groups. However, due to the small number of participants from certain Pacific ethnic groups, further sub-group analyses were not possible.**

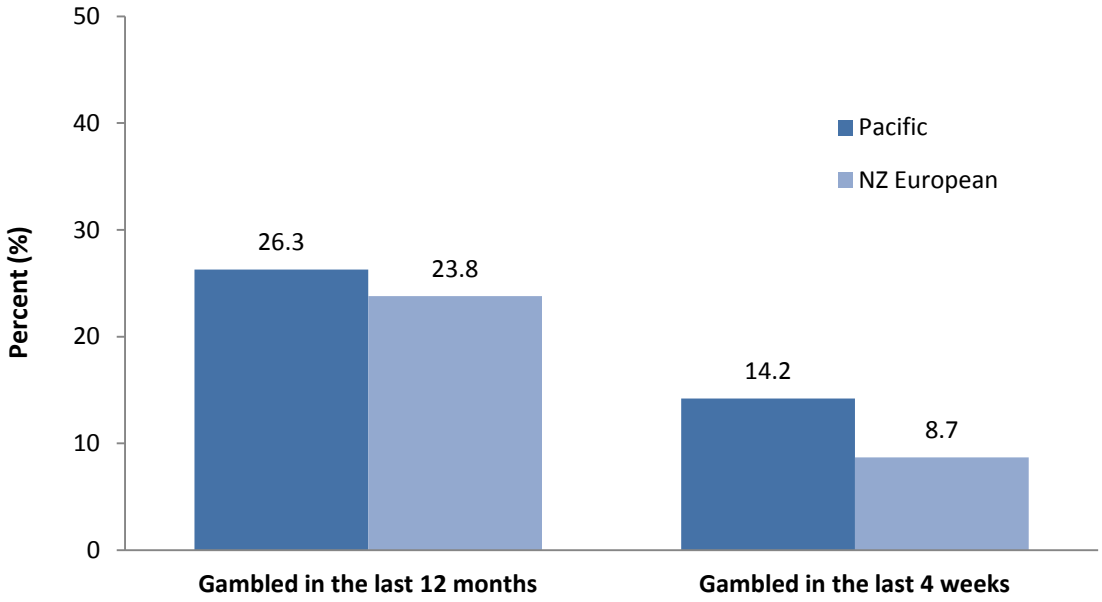
11.1 Youth gambling behaviours

The Youth'12 survey showed that:

- One in four Pacific students (26%) had gambled in the last 12 months (264 Pacific students). Of those Pacific students who had gambled in the previous 12 months, approximately half (or 14% of the entire Pacific student population) had gambled in the last four weeks (142 students).
- A similar proportion of Pacific students reported gambling in the last 12 months when compared to NZ European students (26%, 264 Pacific students and 24%, 916 NZ European students). A significantly higher proportion of Pacific students had gambled in the last four weeks (14%) compared to NZ European students (9%, 335 New Zealand European students) (p=0.0009).

[21] Based on the Statistics New Zealand ethnicity prioritisation method (Lang, 2002), i.e. the method used consistently throughout this report. For total ethnic reporting, 6,250 students were categorised as New Zealand European and 1,445 students were categorised as Pacific.

Figure 17: Gambling over past year and past month for Pacific and NZ European students (among all Pacific and NZ European students; n=4859)



- A small proportion of Pacific students who gamble spend $20 or more in a typical week gambling (4% or 11 students) and a similar proportion of Pacific students who gamble usually do so for 30 or more minutes per day (5% or 14 students).
- Of the Pacific students who had gambled, 111 students were worried about how much time or money they spent gambling (36%), whereas a significantly lower proportion of New Zealand European students (6%, 59 students) who had gambled were worried about this ($p<0.0001$).

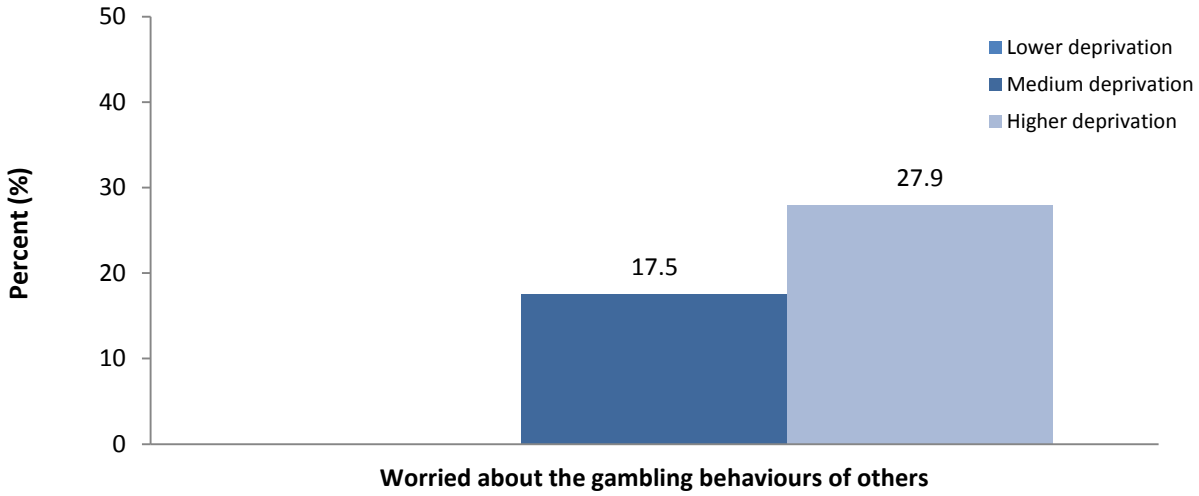
11.2 Parent/caregiver gambling behaviour

- A similar proportion of Pacific students (69%) and New Zealand European students (72%) reported that their parent or caregiver gambles (733 Pacific students and 2826 NZ European students).
- Among students who had gambled in the last 12 months, a significantly greater proportion of Pacific students (24% or 74 Pacific students) than New Zealand European students (5% or 45 NZ European students) had worried about the gambling behaviours of others they live with (e.g. parents or caregivers gambling) ($p<0.0001$).

11.3 Socioeconomic factors and gambling

- Higher levels of socioeconomic deprivation appeared linked to gambling. In particular, a greater proportion (more than a quarter) of Pacific students from neighbourhoods with higher levels of socioeconomic hardship (based on the NZ Deprivation Index), were more likely to be worried about the gambling behaviour of others relative to those from neighbourhoods with medium levels of socio-economic deprivation ($p<0.0001$).

Figure 18: Socioeconomic deprivation and gambling (among all Pacific students; n=309)



11.4 Summary: Gambling and Pacific young people in New Zealand

KEY POINTS:

- One-quarter (26%) of Pacific students had gambled in the last year, and 14% had gambled in the last four weeks. Of those who had gambled in the past year, very few had spent more than $20 per week (4%) or more than 30 minutes a day gambling (5%).

- Rates of gambling in the last 12 months were similar amongst Pacific and NZ European students (26% and 24% respectively), although Pacific students were more likely to have gambled in the last 4 weeks (14% and 9% respectively).

- Pacific students were much more likely to be worried about their gambling than NZ European students (36% of Pacific and 6% of NZ European students *who had gambled in the past year*).

- 69% of Pacific students reported that their parent(s)/caregiver(s) gamble and 24% were worried about their parent/caregiver's gambling. A number of Pacific young people and/or their families encounter problems due to gambling. Students living in neighbourhoods with higher levels of deprivation were more likely than those from lower deprivation neighbourhoods to worry about the gambling behaviour of other people (28% higher deprivation and 18% medium deprivation).

12. GAMBLING AND ASIAN YOUNG PEOPLE IN NEW ZEALAND

This section presents key findings on the gambling behaviours of Asian young people living in New Zealand. The results are drawn from the Youth'12 nationally representative survey of secondary school students, conducted in 2012. Youth'12 surveyed a large randomly-selected sample of secondary school students. The results provided here are based on the 1051 students who were categorised as Asian[22] and some comparisons are made to the 4024 students categorised as New Zealand European from Youth'12. Asian young people included students who identified as Filipino, Chinese, Indian, Japanese, Korean, Cambodian, or 'Other Asian'. **Asian students therefore constitute a range of different ethnic groups, and as such there may be meaningful differences in relation to gambling and the various Asian ethnic groups. However, due to the small number of participants from certain Asian ethnic groups, further sub-group analyses were not possible.**

12.1 Youth gambling behaviours

The Youth'12 survey showed that:

- Almost one in four Asian students (23%) had gambled in the last 12 months (221 Asian students). Of those Asian students who had gambled in the previous 12 months, almost a third (or 9% of the entire Asian population) had gambled in the last four weeks (91 Asian students).
- A similar proportion of Asian students reported gambling in the last 12 months when compared to NZ European students (23%, 221 Asian students and 24%, 916 NZ European students). The same proportion of Asian students had gambled in the last four weeks as that of NZ European students (9%, 335 New Zealand European students).
- About 5% of Asian students who gamble spend $20 or more in a typical week gambling (10 students), and a similar proportion usually spend 30 minutes or more per day gambling (10 students).
- Of the Asian students who had gambled, 57 students were worried about how much time or money they spent gambling (24%), whereas a significantly lower proportion of New Zealand European students (6%, 59 students) who had gambled were worried about this ($p<0.0001$).

[22] Based on the Statistics New Zealand ethnicity prioritisation method (Lang, 2002), i.e. the method used consistently throughout this report. For total ethnic reporting, 6,250 students were categorised as New Zealand European and 1,293 students were categorised as Asian.

Figure 19: Gambling over past year and past month for Asian and NZ European students (among all Asian and NZ European students; n=4835)

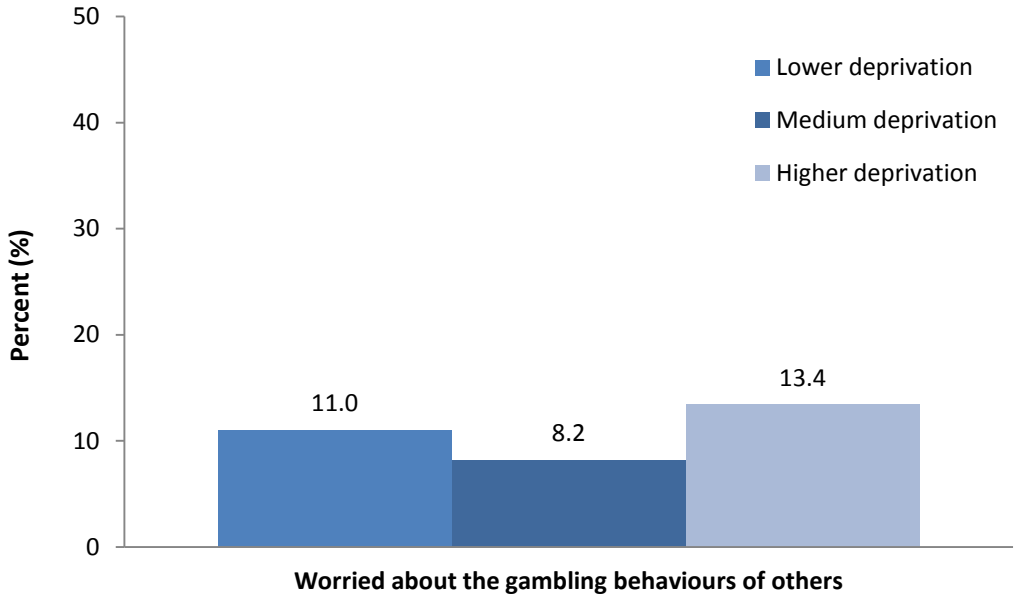
12.2 Parent/caregiver gambling behaviour

- A significantly smaller proportion of Asian students (57%) than New Zealand European students (72%) reported that their parent or caregiver gambles (568 Asian students and 2826 NZ European students respectively) ($p<0.0001$).
- Among students who had gambled in the last 12 months, a significantly greater proportion of Asian students (11% or 25 Asian students) than New Zealand European students (5% or 45 NZ European students) had worried about the gambling behaviours of others they live with (e.g. parents or caregivers gambling) ($p=0.0035$).

12.3 Socioeconomic factors and gambling

- Higher levels of socioeconomic deprivation did not appear to be linked to gambling amongst Asian students. For example, a similar proportion of Asian students from neighbourhoods with higher levels of socioeconomic hardship were worried about the gambling behaviour of others as those from lower deprivation neighbourhoods.

Figure 20: Socioeconomic deprivation and gambling (among all Asian students; n=233)



12.4 Summary: Gambling and Asian young people in New Zealand

KEY POINTS:

- About one-quarter (23%) of Asian students had gambled in the last year, and 9% had gambled in the last four weeks. Of those who had gambled in the past year, very few (5%) spent more than $20 per week or more than 30 minutes a day gambling.
- Rates of gambling in the last 12 months were similar amongst Asian and NZ European students (23% and 24% respectively), as were rates of gambling in the last 4 weeks (9% for both groups).
- Asian students were much more likely to be worried about their gambling than NZ European students (24% of Asian and 6% of NZ European students *who had gambled in the past year*).
- 57% of Asian students reported that their parent(s)/caregiver(s) gamble and 11% were worried about their parent(s)/caregiver(s) gambling. A number of Asian young people and/or their family encounter problems due to gambling.

13. DISCUSSION

This report outlines results from an in-depth quantitative analysis of the Youth'12 gambling questions. Youth'12 provides representative data on the health and wellbeing of young people attending New Zealand secondary schools. It is the third national youth health and wellbeing survey undertaken by the University of Auckland's (UoA) Adolescent Health Research Group (AHRG).

The overall aim of this project was to provide an accurate and detailed description of the gambling behaviour of secondary school students in New Zealand. More specifically, this report aims to:

- Describe the involvement of secondary school students in gambling;
- Explore and describe unhealthy gambling amongst secondary school students;
- Explore and describe the impacts of peer and familial gambling on secondary school students;
- Explore and identify risk and protective factors for unhealthy gambling behaviours amongst New Zealand secondary school students; and,
- Investigate changes over time for gambling behaviour by comparing the Youth'07 and Youth'12 survey data.

The following section presents a discussion of key findings, an overview and implications section, and a summary of the research limitations.

13.1 Students and their own gambling

Overall, most students in this study had limited engagement with gambling activities. Approximately one-quarter of all students had gambled (on one or more activities) in the last 12 months, and one-tenth had gambled in the last four weeks. While these rates are comparable to those observed in Youth'07[23], the observed rate of past-year gambling is lower than that reported for 15-17 year olds in the Health Sponsorship Council's 2010 Health and Lifestyles Survey in New Zealand (Gray, 2011). Very few students in the present study who had gambled in the past 12 months reported spending '$20 or more per week' or '30 minutes or more per day' on gambling activities. Small but significant decreases were observed in the proportions of students spending '$20 or more per week' or '30 minutes or more per day' on gambling activities from 2007 to 2012.

[23] NB: Formal tests of significance to compare these items across the Youth'07 and Youth'12 waves were not carried out as differences in the branching design of the initial gambling items in Youth'07 and Youth'12 may have resulted in different sub-samples of students answering these items. Any comparisons of this item across the two survey waves must be treated with a degree of caution.

The range of activities that students reported gambling on was quite limited. The majority of students (three-quarters) had not engaged in any gambling activities in the past 12 months, less than one-fifth of students had gambled on one activity and approximately one-tenth had gambled on two or more activities. The most frequently reported gambling activities were "bets with friends or family", "Instant Kiwi (scratchies)", and "cards or coin games (e.g. poker)". The reasons most frequently cited by students for gambling included 'for fun', 'to make money', 'for a challenge' and to 'relieve boredom'. These findings correspond to students' views on which modes of gambling are okay for people their age to engage in and are largely consistent with findings from Youth'07 (Rossen, et al., 2011) and other research on youth gambling (Health Sponsorship Council, 2012; Rossen, et al., 2009; Splevins, et al., 2010; Valentine, 2008).

There is considerable evidence of gender differences in the youth gambling literature, with young males being more involved in gambling than young females (Darling, et al., 2006; Floros, et al., 2013; Raisamo, et al., 2013; Rossen, 2008; Rossen, et al., 2011; Wood & Williams, 2009). Similarly, a consistent theme throughout this report is that gambling tends to play a more prominent role in the life of young males than females. Greater proportions of males than females indicated that they: had gambled in the last 12 months; had gambled in the last four weeks; usually spend $20 or more per week on gambling; and, had worried about the amount of time or money that they spent on gambling. In addition to some of the more casual modes of gambling (e.g. having bets with friends/family and playing card or coin games for money), male students were also more likely than their female counterparts to have gambled at a casino, via a cell-phone or on the Internet.

13.2 The impacts of others' gambling on students

The results from this project highlight the ecological nature of gambling. In essence, an ecological approach to understanding human behaviour values and acknowledges the contextual framework in which individuals live and operate (Bronfenbrenner, 1979; Swick & Williams, 2006; Berk, 2000; Addison, 1992). In particular, this study found clear evidence that the socialisation of students' (with regard to gambling), through family and friends, plays an important role in the formation of student gambling behaviour. Nearly three-quarters of students in this study indicated that their parents gambled and approximately half said that their friends had gambled; students usually engaged in gambling with friends and/or family members (particularly younger students); and, 'bets with friends or family' was the activity most frequently cited by students as being socially acceptable for people their age to play or do regularly. These findings are consistent with theories of youth development, which indicate that an important contributing factor to healthy youth development is access to a caring, supportive and safe family environment. Youth who report relationships of this type with their families are more likely to be happy, healthy and get on better in life (e.g. McLaren, 2002). However, children of problem gamblers are more likely to

experience emotional neglect and poor parent-child relationships, and are at greater risk of youth suicide, adjustment disorders, behavioural difficulties and poor psychological development (Abbott & Cramer, 1993; Darbyshire, et al., 2001a; Floros, et al., 2013; Rogers, 2013; Vitaro, et al., 2008). It is concerning that a number of students in this study reported issues that are indicative of unhealthy parental/familial gambling behaviour, and/or neglect due to parental/familial gambling (e.g. they had worried about their parents gambling; there had been fights/arguments about gambling; bills were not paid; they had to go without something that was needed). The rates of these issues were lower than those reported by the Health Sponsorship Council's Health and Lifestyles Survey (2012). These discrepancies may be attributable to the different age ranges employed by the samples: 12-19 in Youth'12 vs. 15-24 in the Health and Lifestyles Survey. Both surveys found that young people living in neighbourhoods with higher levels of socio-economic deprivation were more likely to report indicators of familial/household problematic gambling.

All of these findings have implications with regard to how young people learn to engage with gambling, and the potential for the development of problem gambling amongst youth, particularly as parental problem gambling is a well-established risk-factor for youth problem gambling (Delfabbro, et al., 2005; Dowling, Jackson, Thomas, &. Frydenberg, 2010; Hardoon, et al., 2002; Hardoon & Derevensky, 2002).

The reported involvement of parents and caregivers in gambling were similar amongst Māori, Pacific and NZ European students, while a smaller proportion of Asian students reported that their parents/caregivers gambled. However, in comparison to NZ European students, significantly greater proportions of Māori, Pacific and Asian students reported being concerned about their parents'/caregivers' gambling. This corresponds with adult-based research in New Zealand which highlights the disproportionate effects of gambling on Māori, Pacific and Asian communities (Abbott & Volberg, 1991; Abbott & Volberg, 2000; Australian Institute for Gambling Research Studies, 1998; Bellringer, et al., 2006; Devlin, 2011; Guttenbeil-Po'uhila, et al., 2004; Perese, 2009; Perese, et al., 2009; Thorne, et al., 2012; Tse, et al., 2005; Tu'itahi, et al., 2004).

Socio-economic deprivation was also linked to the impacts of parental/caregiver gambling on young people; students living in neighbourhoods with higher levels of deprivation were more likely to have worried or felt anxious about others' gambling. In particular, Māori and Pacific young people from higher deprivation neighbourhoods were more likely to be worried about the gambling of others relative to those from less deprived neighbourhoods.

13.3 Unhealthy gambling and the identification of risk and protective factors

One aim of this research was to explore problematic gambling amongst secondary school students and identify risk and protective factors. As Youth'12 did not include a formal standardised measure of problem/pathological gambling, a construct to define 'unhealthy gambling' behaviour was developed.

The majority of students who had gambled in the last 12 months did so without reporting any of the indices for 'unhealthy gambling' and they appeared to be engaging with gambling at safe levels. However, a number of students did report factors that were indicative of 'unhealthy gambling': approximately one-tenth reported one indicator and a further five percent reported two or more indicators of 'unhealthy gambling'. While these students were from a diverse range of backgrounds, a number of demographic factors were significantly associated with an elevated risk of unhealthy gambling. In particular, students who were male, from non-New Zealand European ethnic groups, and students living in neighbourhoods with higher levels of deprivation were significantly more likely than their counterparts to report issues that were indicative of unhealthy gambling. These demographic risk factors are largely consistent with previous gambling research involving young people in New Zealand (Devlin, 2011; Health Sponsorship Council, 2012; Rossen, 2008; Rossen, et al., 2011; Rossen, et al., 2009).

The first step in investigating variables that performed risk or protective functions in relation to 'unhealthy gambling' behaviour entailed a series of logistic regressions. While only two variables (i.e. connectedness to family and good wellbeing) were found to moderate/protect against 'unhealthy gambling' behaviour, 22 items were associated with an increased risk of 'unhealthy gambling' behaviour (see Table 14 for a summary of these items). These variables covered a broad range of domains including: social connectedness; students concerns about their own and others gambling; being negatively impacted by the gambling of family members; gambling behaviour (who they gamble with, modes of gambling, attitudes towards gambling); involvement in other risky behaviours (alcohol and cigarettes); poor emotional health (depression, suicide); overall wellbeing; bullying and violence in the home; truancy from school; and, use of the Internet and computer games. The link between a safe and supportive family environment and youth gambling was reinforced. For instance, indicators of problematic gambling amongst family members, witnessing and/or experiencing violence in the home, and social connectedness to family were all shown to play significant risk and/or protective roles for 'unhealthy gambling' in students.

Table 14: Risk and Protective factors for 'unhealthy gambling' behaviour

RISK:	PROTECTIVE:
VARIABLES ASSOCIATED WITH AN INCREASED RISK OF 'UNHEALTHY' GAMBLING	**VARIABLES ASSOCIATED WITH A DECREASED RISK OF 'UNHEALTHY' GAMBLING**

• Worrying about the amount of time/money spent on gambling
• Worrying about other peoples' gambling (i.e. family members)
• Experiencing the following impacts of someone else's gambling (i.e. family members):
  ◦ arguments or fights
  ◦ had to go without things
  ◦ bills weren't paid
  ◦ people had done things that could have got them in serious trouble
• Gambling with:
  ◦ 'other' people they know (i.e. not family or friends)
  ◦ people they don't know (e.g. people online)
• Having more accepting attitudes towards gambling
• Gambling on:
  ◦ pub or club EGMs / casino EGMs or tables, TAB betting
  ◦ the Internet / mobile phone / 0900 phone games
• Drinking alcohol weekly or more often
• Smoking cigarettes weekly or more often
• Depression
• Having attempted suicide (in the last 12 months)
• Poor wellbeing
• Experiencing violence or bullying:
  ◦ witnessed violence in the home
  ◦ been hit or physically harmed in their own home
  ◦ has been bullied (weekly or more often)
• Truancy
• Using the Internet for 3+ hours per day
• Playing computer games for 3+ hours per day
• Demographic characteristics:
  ◦ Ethnicity - Māori, Pacific and Asian students
  ◦ Sex - Being male
  ◦ Socioeconomic status - Living in neighbourhoods with higher levels of socioeconomic deprivation
	• Social connectedness – having good relationships with family members
	• Wellbeing – having good overall wellbeing

The next phase in identifying risk and protective factors employed multiple logistic regressions to determine if these risk/protective factors would continue to be influential in the presence of each other. While neither of the protective factors maintained their statistical significance, five variables continued to fulfil a significant risk function for 'unhealthy gambling', even in the presence of other variables (see Figure 21). These factors represent a broad range of domains, including exposure to problematic gambling in the family, attitudes towards gambling, modes of gambling, and co-existing mental health issues.

The presence of co-existing mental health issues is of particular relevance to those working within youth health. Shead et al., (2010) argue that many of the risk factors for youth problem gambling predict a general behaviour syndrome that is encompassed by overall mental health problems. The identification of co-existing mental health

issues in this report (e.g. alcohol use, depression, suicide) emphasise the importance of considering unhealthy gambling alongside other mental health issues.

Figure 21: Risk Factors for 'unhealthy gambling' behaviour amongst youth

This research reinforces that the current generation of adolescents are living in a rapidly changing gambling environment and they are exposed to a wide range of activities through an increasingly diverse range of mediums (e.g. the Internet and smartphone technologies) (Floros, et al., 2013; Molde, et al., 2009). As such, it is worth noting the role of technology, and the Internet in particular, in relation to youth gambling behaviour. This research found an elevated risk of unhealthy gambling for students who: used the Internet for three or more hours per day; played computer games for three or more hours per day; gambled on the Internet; gambled on a mobile phone; or gambled using 0900 phone games.

The changing role of technology in the marketing and accessibility of gambling (for both youth and adults) and the substantial risks posed to youth by these gambling technologies have been highlighted by several researchers (Floros, et al., 2013; Griffiths, 2003; Williams & Wood, 2007). These modes of gambling share a number of characteristics that have been associated with an increased likelihood of unhealthy or problematic gambling,

including: a lack of opportunities for social monitoring; ability for continuous access (i.e. 24 hour access from almost any venue/location); difficulties around identification of minors (e.g. in the verification of age); and, the potential for high-intensity/high-risk gambling (e.g. modes that have continuous feedback cycles and the potential to lose a large amount of money in a very short timeframe) (Abbott & Volberg, 2000; Adams, et al., 2004; Floros, et al., 2013; Health Sponsorship Council, 2012; Orford, 2011). Researchers have also raised concerns around the blurred delineation between gaming and gambling and the potential for youth to be 'groomed' via gaming activities for engagement with high intensity gambling products (Floros, et al., 2013; Volberg, et al., 2010; Williams & Wood, 2007).

13.4 Overview and implications

The results of this research indicate that most students have limited engagement with gambling activities. However, a significant proportion of students were involved with gambling and some had experienced gambling related difficulties. Moreover, a number of young people had been negatively impacted due to the gambling behaviour of their families/whānau.

Results from the analyses to examine changes over time revealed small (but significant) decreases in the proportions of students spending more than $20 per week and 30 minutes per day on gambling compared to Youth'07. While these decreases are encouraging, this research does not enable the underlying mechanisms to be explained. In-depth qualitative research would assist with improving our understanding of these behavioural changes and determining appropriate actions to ensure that these positive changes can be maintained and built on.

It is of concern that despite legislation around age limits, some youth appear to be gaining access to modes of gambling that are theoretically unavailable to them. A number of these modes (casinos, TAB betting, and pub/club EGMs) were significantly associated with an elevated risk of 'unhealthy gambling'. As such, there appears to be a need for further monitoring and enforcement around age-related legislation to ensure that minors are not gaining access to age-limited gambling activities, particularly the activities that have been identified with increased risk. Health promotion efforts with young people, family/whānau and members of the gambling industries may also be beneficial.

This research also highlighted a relationship between socio-economic deprivation and gambling. A number of findings indicate that students living in neighbourhoods with higher levels of socio-economic deprivation were more likely to gamble at 'unhealthy' levels. They were also more likely to be negatively impacted as a result of someone else's gambling (i.e. family/whānau). This is consistent with other reports of higher concentrations of EGMs (and subsequent negative impacts of gambling) in communities with higher levels of socio-economic

deprivation (Centre for Social and Health Outcomes Research and Evaluation & Te Ropu Whariki, 2008; Wheeler, Rigby, & Huriwai, 2006; Wynd, 2005). Throughout this report, the disproportionate effects of gambling on Māori, Pacific and Asian young people have also been highlighted. In comparison to NZ European students, significantly greater proportions of Māori, Pacific and Asian students reported being concerned about their own gambling and the gambling of their parents/caregivers.

Overall, the findings from this research are supportive of Messerlian et al., (2005) public health approach to youth gambling. This approach has direct relevance to youth gambling in New Zealand and outlines a structure to guide public health action that incorporates four public health goals: Denormalisation; Protection; Prevention; and, Harm reduction. The key objectives for each goal can be summarised as:

- Social denormalisation – encouraging society to question and assess youth gambling:
    - Drawing attention to the marketing strategies employed by members of the gambling industries;
    - Influencing social norms and attitudes on youth gambling;
    - Challenging current myths and misconceptions about youth gambling;
    - Promoting realistic and accurate knowledge with regard to the impacts of youth gambling.
- Prevention:
    - Improving knowledge and awareness of the risks associated with excessive youth gambling;
    - Promoting and enabling informed decision making;
    - Enabling early identification and treatment of youth at-risk of excessive gambling;
    - Facilitating healthy youth development through the development of problem-solving, coping, and social skills in youth;
    - Minimising the harm of gambling problems in youth, their families and communities.
- Protection:
    - Reducing the accessibility and availability of state-regulated gambling to underage youth through effective institutional policies and government legislation;
    - Protecting youth from direct and indirect marketing of gambling products and venues.
- Harm reduction:
    - Preventing unhealthy youth gambling from developing through targeting of all youth, particularly those identified as being at-risk.

This framework entails a multi-level approach with actions required at the intra-/inter-personal, community, policy, and institutional levels. However, while the Messerlian et al., (2005) model is based on a review of international youth gambling research, it does not specifically consider the needs of New Zealand's population. The current research has identified that youth living in neighbourhoods with high levels of deprivation, and

students who identify as Māori, Pacific and Asian, are disproportionately affected by gambling and unhealthy gambling. As such, these findings suggest that Māori, Pacific and Asian youth and their families/whānau should be prioritised with regard to resource allocation for each of the public health goals identified in the Messerlian et al., (2005) model. The findings also indicate that youth and families/whānau living in neighbourhoods with higher levels of deprivation are a priority for public health initiatives and confirm the status of communities as key stakeholders with regard to the provision of gambling in their neighbourhoods.

While Messerlian et al., (2005) provide a comprehensive model for delivering public health initiatives, there is a lack of empirical evidence on the efficacy of specific interventions (Rigbye, 2010). For example, a recent study in the UK noted that growing concern around youth problem gambling has resulted in the implementation of a wide range of initiatives but that there is also a lack of empirical evaluation on the effectiveness of such initiatives (Rigbye, 2010). This has been partially attributed to a lack of 'best practice' guidelines in this field (Marotta and Hynes, 2003; Griffiths, 2008; Rigbye, 2010; Derevensky et al., 2002). In their review of adolescent gambling research, Blinn-Pike and colleagues identified only three such evaluations[24] and recommended that more work is required in this area (Blinn-Pike et al., 2010).

Article 3 of the Treaty of Waitangi confers Māori with rights of equality and opportunity. This means that Māori youth require culturally responsive strategies, particularly as they are disproportionately affected. It is unclear how current public health strategies for gambling affect Māori youth. Evaluation of current programmes and development of specific strategies for Māori youth are required. It should also be noted that there is a dearth of intervention research conducted with indigenous populations and other ethnic groups in relation to gambling. Therefore research in the area of effective approaches for addressing gambling with Māori and other ethnic groups (specifically Pacific and Asian communities) should be prioritised amongst young people and adults.

Overall, there is a paucity of empirical evidence for the effectiveness of youth gambling prevention initiatives, particularly with regard to young people in New Zealand. The authors of this report and the Adolescent Health Research Group hope that the findings of this research can be used to advocate for public health initiatives that will improve the health and wellbeing of young people in New Zealand with regard to gambling and unhealthy gambling. The four public health goals outlined above have implications for all youth gambling stakeholders in New Zealand: health promotion workers, researchers, policy makers, members of the gambling industries, youth, their families/whānau, schools and communities.

[24] These were all school-based initiatives: one involved a video and lecture presentations; another was comprised of three 75-minute sessions which were followed up six months later; and, the third was a 45-minute programme consisting of a lecture, discussion, and activities. Evaluations of the initiatives showed mixed results (see Blinn-Pike et al (2010) for an in-depth discussion).

In closing, this research has shown that the majority of secondary school students had not engaged with gambling in the past year. It has also demonstrated that a wide range of social and ecological factors play a role in determining youth gambling behaviour; the factors which increase risk and/or moderate (protect) against unhealthy youth gambling behaviour are varied and diverse. As such, preventative efforts aimed at enabling young people to engage with gambling in a safe manner will require the concerted efforts of family/whānau, schools, members of the various gambling industries, and government agencies.

These findings also indicate that interventions to reduce gambling harm are not necessarily required for all students and that special consideration should be given to:

1) Underage access to harmful gambling (i.e. monitoring and enforcement of age restrictions);
2) Young people who are actively engaged with gambling; and,
3) Youth who are concerned about their own gambling and/or the impacts of gambling within their family/whānau.

The contextual information provided in this report indicate that it is important for clinical interventions aimed at addressing problematic youth gambling to consider family-centred approaches, co-existing mental health issues and/or involvement in other 'risky' behaviours.

The current research has also identified that youth living in neighbourhoods with high levels of deprivation, and students who identify as Māori, Pacific and Asian, are disproportionately affected by gambling and unhealthy gambling. Māori, Pacific and Asian youth and their families/whānau require culturally responsive public health strategies and should be prioritised with regard to resource allocation for the delivery of public health initiatives. The results support the public health framework for youth gambling that has been proposed by Messerlian et al., (2005). This multi-level approach emphasises action at the intra-/inter-personal level, community level, policy level, and institutional level. The four public health goals of this model (denormalisation, prevention, protection, and harm reduction) have implications for all youth gambling stakeholders, i.e. health promotion workers, researchers, policy makers, members of the gambling industries, youth, their families/whānau, schools and communities.

13.5 Limitations and future research

The data presented in this report relates to a representative sample of secondary school students in New Zealand. As such, young people who are disengaged from a mainstream school environment (e.g. alternative education students and young people who have 'dropped out' of school) are not represented by these findings. Moreover, only students who were at school on the day of the survey were included. It is also important to note that a technological error resulted in the five-item question on problematic gambling being omitted from the questionnaire. As such, the findings provided in this report are likely to represent a slightly more positive view of gambling related issues of students in schools.

Secondly, the Youth'12 survey is a cross-sectional survey. As such, it is important to note that while a number of relationships/associations have been observed between variables, these are not necessarily indicative of cause and effect.

A number of results are presented for 'Pacific' and 'Asian' students. In this study, Pacific young people included students who identified as Samoan, Cook Island Māori, Tongan, Niuean, Tokelauan, Fijian or 'Other Pacific Peoples'. Pacific students therefore constitute a range of different ethnic groups, and as such there may be meaningful differences in relation to gambling and the various Pacific ethnic groups that have not been presented here. Similarly, Asian young people included students who identified as Filipino, Chinese, Indian, Japanese, Korean, Cambodian, or 'Other Asian'. Asian students also constitute a range of different ethnic groups, and there may be meaningful differences in relation to gambling and the various Asian ethnic groups. However, due to the small number of participants from certain Pacific and Asian ethnic groups, further sub-group analyses were not possible.

Finally, our analysis is limited by the survey questions, response options and the measures used within this report. For example, an indication of cultural 'attachment' was only measured in this report by one item ('student is satisfied with their knowledge of their cultural group') and, in contrast to other studies/hypothesised effects it was not found to be significant. Measures of various risk factors have evolved and been refined over many decades. For example, there is a large body of literature on the measurement of depression, and multi-item, extensively validated scales are employed. It will be important to further develop and employ more sophisticated measures of hypothesised protective factors in future research. This is a challenge for the AHRG and its various research activities and for the youth-health field in the future.

There are further opportunities to explore Youth'12 data. For example, future research could create multi-item protective factor scales and conduct in-depth investigations of their role in gambling and unhealthy gambling. The current research indicates that in-depth explorations of the following two questions would be beneficial:

- *Does (unhealthy) youth gambling mainly occur within the context of multiple other health risks?* Preliminary evidence in this report indicates significant associations between unhealthy gambling and depression, poor wellbeing, and the use of alcohol and cigarettes. The co-occurrence of gambling and other health risks would have important implications with regard to the integration of gambling interventions into approaches to address other youth problems.
- *Does (unhealthy) youth gambling mainly occur within the context of family gambling?* This research found that worrying about parent/caregiver gambling and being negatively impacted by familial gambling was associated with an increased risk of unhealthy gambling. The importance of family gambling would indicate the need for family-based interventions and public health measures.

13.6 Summary

This research indicates that many young people engage with gambling to a limited extent and that a relatively small, but important proportion of students, report unhealthy levels of gambling that are negatively impacting on their lives and the lives of others. Students who gamble at unhealthy levels were significantly more likely to be male, from non-New Zealand European ethnic groups, and living in neighbourhoods with higher levels of deprivation. However, even within these groups the majority of students had not gambled in the past year. Most students who reported unhealthy levels of gambling reported other health needs/issues and were worried about the gambling behaviour of a family member(s).

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APPENDICES

Appendix A Overview of Youth'12 gambling questions

TOPIC DOMAIN	ORDER OF QUESTION IN GAMBLING SECTION OF YOUTH'12 SURVEY	QUESTION WORDING	NAME IN DATABASE [1 2]	RESPONSES	CATEGORY	COMPARABLE WITH YOUTH'07
GAMBLING - Activities Acceptable for People Student's Age to Participate In	1	**Which of these do you think is okay for people your age to play or do regularly? (you may choose as many as you need)**				
		- Instant Kiwi (scratchies)	Gamb7_1	- No - Yes	**Attitudes and motivating factors**	NO
		- Lotto (including Strike, Powerball and Big Wednesday)	Gamb7_2			
		- Bingo or Housie	Gamb7_3			
		- Pub or club (pokies)	Gamb7_4			
		- A casino (e.g. roulette, pokies)	Gamb7_5			
		- TAB betting (e.g. on track racing or sports)	Gamb7_6			
		- Games and gambling on a cell/mobile phone for money or prizes (e.g. txt games)	Gamb7_7			
		- Gambling on the Internet for money or prizes (e.g. internet casinos or poker)	Gamb7_8			
		- Bets with friends or family	Gamb7_9			
		- 0900 phone games	Gamb7_10			
		- Cards or coin games (e.g. poker)	Gamb7_11			
		- None of these	Gamb7_12			
GAMBLING - Activities Student's Friends Participate In	2	**Which of the following activities do your friends play or do? (you may choose as many as you need)**				
		- Instant Kiwi (scratchies)	Gamb8_1	- No - Yes	**Social and ecological factors**	NO
		- Lotto (including Strike, Powerball and Big Wednesday)	Gamb8_2			
		- Bingo or Housie	Gamb8_3			
		- Pub or club (pokies)	Gamb8_4			
		- A casino (e.g. roulette, pokies)	Gamb8_5			
		- TAB betting (e.g. on track racing or sports)	Gamb8_6			
		- Games and gambling on a cell/mobile phone for money or prizes (e.g. txt games)	Gamb8_7			
		- Gambling on the Internet for money or prizes (e.g. internet casinos or poker)	Gamb8_8			
		- Bets with friends or family	Gamb8_9			
		- 0900 phone games	Gamb8_10			
		- Cards or coin games (e.g. poker)	Gamb8_11			
		- None of these	Gamb8_12			
GAMBLING – Activities Student's <u>Parents or Caregivers</u> Participate In	3	**Which of the following activities do your parent/s or caregiver/s play or do? (you may choose as many as you need)**				
		- Instant Kiwi (scratchies)	Gamb9_1	- No - Yes	**Social and ecological factors**	NO
		- Lotto (including Strike, Powerball and Big Wednesday)	Gamb9_2			
		- Bingo or Housie	Gamb9_3			
		- Pub or club (pokies)	Gamb9_4			
		- A casino (e.g. roulette, pokies)	Gamb9_5			
		- TAB betting (e.g. on track racing or sports)	Gamb9_6			
		- Games and gambling on a cell/mobile phone for money or prizes (e.g. txt games)	Gamb9_7			
		- Gambling on the Internet for money or prizes (e.g. internet casinos or poker)	Gamb9_8			
		- Bets with friends or family	Gamb9_9			
		- 0900 phone games	Gamb9_10			
		- Cards or coin games (e.g. poker)	Gamb9_11			
		- None of these	Gamb9_12			

GAMBLING – Betting Precious Things or Money	4	**Have you ever gambled or bet precious things for money on any of these activities?**				
		- Instant Kiwi (scratchies)	Gamb10_1	- Never - Not in the past 12 months - Once or twice in the last 12 months - Once in the last 4 weeks - Two or three times in the last 4 weeks - About one a week - Several times a week - Most days	**Level of student engagement with gambling**	NO
		- Lotto (including Strike, Powerball and Big Wednesday)	Gamb10_2			
		- Bingo or Housie	Gamb10_3			
		- Pub or club (pokies)	Gamb10_4			
		- A casino (e.g. roulette, pokies)	Gamb10_5			
		- TAB betting (e.g. on track racing or sports)	Gamb10_6			
		- Games and gambling on a cell/mobile phone for money or prizes (e.g. txt games)	Gamb10_7			
		- Gambling on the Internet for money or prizes (e.g. internet casinos or poker)	Gamb10_8			
		- Bets with friends or family	Gamb10_9			
		- 0900 phone games	Gamb10_10			
		- Cards or coin games (e.g. poker)	Gamb10_11			
GAMBLING – Money Spent Each Week on Gambling	5	**Thinking about the activities in the previous question, how much money would you usually spend each week on bets or gambling?**	Gamb4	- Nothing - Less than $10 - $10-$19 - $20-$29 - $30-$49 - $50 or more	**Level of student engagement with gambling**	YES (Gamb4)
GAMBLING – Time Spent Each Day on Gambling	6	**How much time would you usually spend each day on bets or gambling?**	Gamb5	- Nothing - Less than 15 minutes - 15-29 minutes - 30-59 minutes - 1 to 3 hours - More than 3 hours	**Level of student engagement with gambling**	YES (Gamb5)
GAMBLING – People Students Usually Gamble With	7	**When you do these activities or gamble, who do you usually do it with? (you may choose as many as you need)**				
		- Friends	Gamb11_1	- No - Yes	**Social and ecological factors**	NO
		- Family	Gamb11_2			
		- Other people I know	Gamb11_3			
		- Other people I don't know (e.g. people online)	Gamb11_4			
		- By myself	Gamb11_5			
GAMBLING - Reasons Students Gamble	8	**Why do you participate in gambling or bet for money? (you can choose as many as you need)**				
		- To have fun	Gamb6_1	- No - Yes	**Attitudes and motivating factors**	YES (Gamb6) NB: some minor changes in wording / responses)
		- To win money	Gamb6_2			
		- Because I am bored	Gamb6_3			
		- To relax	Gamb6_4			
		- To feel better about myself	Gamb6_5			
		- To forget about things	Gamb6_6			
		- Because my friends do	Gamb6_7			
		- Because my family does	Gamb6_8			
		- For a challenge	Gamb6_9			
		- Because I can't stop	Gamb6_10			
		- Because I am short of money	Gamb6_11			
		- To get a buzz	Gamb6_12			
		- Because I am lonely	Gamb6_14			
		- None of these	Gamb6_13			

GAMBLING – Indicators of Unhealthy Gambling [3]	9	**How many times in the last 12 months have you…**		- Never - Not in the last 12 months - Once or twice in the last 12 months - Three or more times in the last 12 months	**Problem indicators for students and help-seeking**	NO
		- Had friends or family tell you that you should cut down on the money or time you spend on gambling or these activities?	Gamb12_1			
		- Had your performance or attendance at school or work affected by gambling or these activities?	Gamb12_2			
		- Done things that could have got you into serious trouble (e.g. stealing) because of gambling or these activities?	Gamb12_3			
		- Had arguments or fights with your friends because of the money or time spent on gambling or these activities?	Gamb12_4			
		- Had arguments with your family because of the money or time spent on your gambling or activities?	Gamb12_5			
GAMBLING – Worried About Time or Money Spent on Gambling	10	**Are you worried about how much time or money you spend on these activities or gambling?**	Gamb13	- A lot - Some - A little - Not at all	**Problem indicators for students and help-seeking**	NO
GAMBLING – Trying to Cut Down	11	**Have you ever tried to cut down or give up gambling or any of these activities?**	Gamb14	- No - Yes	**Problem indicators for students and help-seeking**	NO
GAMBLING – Help Seeking	12	**If you had problems or concerns because of your gambling, who would you go to for help? (you may choose as many as you need)**				
		- School guidance counsellor	Gamb15_1	- No - Yes	**Problem indicators for students and help-seeking**	NO
		- Friends	Gamb15_2			
		- Teachers	Gamb15_3			
		- Parents	Gamb15_4			
		- Other family members (e.g. grandparent, aunts, uncles, cousins)	Gamb15_5			
		- School nurse	Gamb15_6			
		- Family doctor	Gamb15_7			
		- Gambling helpline	Gamb15_8			
		- Pharmacy/chemist shop	Gamb15_9			
		- Other	Gamb15_10			
		- I wouldn't look for help	Gamb15_11			
GAMBLING – Worried About Time or Money Spent By Others on Gambling	13	**Do you ever worry or feel anxious about how much money or time other people you live with (parents and family), spend on gambling or any of these activities?**	Gamb16	- Yes, all of the time - Yes, now and then - No, hardly ever - No, never - I don't know	**Social and ecological factors**	NO
GAMBLING – How Many Times in the Last 12 Months Have Students…	14	**How many times in the last 12 months have these things happened in your family because of someone else's gambling…**				
		- Had arguments or fights about time or money spent on betting or gambling	Gamb17_1	- Never - Not in the last 12 months - Once or twice in the last 12 months - Three or more times in the last 12 months	**Social and ecological factors**	NO
		- We had to go without something we needed (e.g. food) because too much money was spent on gambling or betting	Gamb17_2			
		- Some bills weren't paid because too much money was spent on gambling or betting	Gamb17_3			
		- They did things that could have got them into serious trouble (e.g. stealing) because of gambling or these activities	Gamb17_4			

Notes: 1.'Name in Database' is not necessarily indicative of item order / position in survey; 2. Not all questions are asked of all students – the branching design of the survey excludes some students when question is not relevant – see data dictionary for full details; 3. Gamb12_1-Gamb12_5 were omitted from the survey due to a branching error.

Appendix B Types of gambling that students have participated in over past 12 months (all students)

		Instant Kiwi (stratchies)		Lotto		Bingo or housie		Pub or Club Pokies		Casino pokies or tables		TAB betting		Games and gambling on a cell/mobile phone for money or prizes		Gambling on the Internet for money or prizes (e.g. internet casinos or poker)		Bets with friends or family		0900 phone games		Cards or coin games (e.g. poker)	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		669 (7,813)	8.6 7.9 - 9.2	283 (7,813)	3.6 3.1 - 4.1	168 (7,813)	2.1 1.6 - 2.7	100 (7,813)	1.3 1.0 - 1.6	68 (7,813)	0.9 0.6 - 1.2	170 (7,813)	2.2 1.8 - 2.5	120 (7,813)	1.5 1.2 - 1.9	108 (7,813)	1.4 1.0 - 1.7	1,301 (7,813)	16.7 15.6 - 17.7	69 (7,813)	0.9 0.6 - 1.2	446 (7,813)	5.7 5.0 - 6.4
By Sex	Male	285 (3,456)	8.2 7.2 - 9.2	138 (3,456)	4.0 3.2 - 4.7	79 (3,456)	2.3 1.6 - 2.9	60 (3,456)	1.7 1.2 - 2.2	46 (3,456)	1.3 0.8 - 1.8	88 (3,456)	2.5 1.9 - 3.1	77 (3,456)	2.2 1.6 - 2.8	78 (3,456)	2.2 1.7 - 2.8	643 (3,456)	18.6 17.0 - 20.2	44 (3,456)	1.3 0.8 - 1.7	281 (3,456)	8.1 7.1 - 9.2
	Female	384 (4,355)	8.8 7.9 - 9.7	145 (4,355)	3.3 2.8 - 3.8	89 (4,355)	2.1 1.4 - 2.7	39 (4,355)	0.9 0.6 - 1.2	22 (4,355)	0.5 0.3 - 0.7	82 (4,355)	1.9 1.3 - 2.4	43 (4,355)	1.0 0.7 - 1.3	30 (4,355)	0.7 0.4 - 1.0	657 (4,355)	15.1 14.1 - 16.2	25 (4,355)	0.6 0.3 - 0.8	165 (4,355)	3.8 3.2 - 4.4
By Age	13 and under	145 (1,679)	8.7 7.3 - 10.0	47 (1,679)	2.7 1.7 - 3.7	54 (1,679)	3.2 2.2 - 4.3	17 (1,679)	1.0 0.5 - 1.5	20 (1,679)	1.2 0.6 - 1.8	34 (1,679)	2.0 1.4 - 2.6	23 (1,679)	1.4 0.7 - 2.0	23 (1,679)	1.4 0.8 - 2.0	286 (1,679)	17.0 15.0 - 19.0	19 (1,679)	1.1 0.6 - 1.7	76 (1,679)	4.6 3.5 - 5.7
	14	132 (1,760)	7.5 6.1 - 8.8	62 (1,760)	3.5 2.6 - 4.5	37 (1,760)	2.1 1.3 - 2.8	22 (1,760)	1.2 0.7 - 1.8	14 (1,760)	0.8 0.3 - 1.3	33 (1,760)	1.8 1.1 - 2.5	33 (1,760)	1.9 1.2 - 2.6	22 (1,760)	1.2 0.6 - 1.9	281 (1,760)	16.1 14.4 - 17.8	21 (1,760)	1.2 0.7 - 1.7	93 (1,760)	5.3 4.5 - 6.1
	15	133 (1,594)	8.3 6.9 - 9.7	55 (1,594)	3.4 2.6 - 4.2	34 (1,594)	2.1 1.3 - 3.0	17 (1,594)	1.1 0.6 - 1.6	14 (1,594)	0.9 0.4 - 1.3	28 (1,594)	1.8 1.2 - 2.3	26 (1,594)	1.6 1.0 - 2.3	26 (1,594)	1.7 1.1 - 2.2	259 (1,594)	16.3 14.5 - 18.1	11 (1,594)	0.7 0.3 - 1.1	89 (1,594)	5.6 4.3 - 6.9
	16	119 (1,444)	8.2 6.7 - 9.8	46 (1,444)	3.2 2.2 - 4.2	23 (1,444)	1.6 0.8 - 2.3	17 (1,444)	1.2 0.5 - 1.8	9 (1,444)	0.6 0.2 - 1.0	43 (1,444)	2.9 1.9 - 4.0	17 (1,444)	1.2 0.5 - 1.8	19 (1,444)	1.3 0.7 - 1.9	271 (1,444)	18.7 16.2 - 21.3	10 (1,444)	0.7 0.2 - 1.2	106 (1,444)	7.3 5.7 - 8.9
	17 and over	139 (1,326)	10.5 8.7 - 12.2	73 (1,326)	5.5 4.2 - 6.7	19 (1,326)	1.4 0.8 - 2.1	27 (1,326)	2.0 1.2 - 2.9	11 (1,326)	0.8 0.2 - 1.4	32 (1,326)	2.4 1.6 - 3.2	20 (1,326)	1.5 0.7 - 2.3	18 (1,326)	1.4 0.6 - 2.2	201 (1,326)	15.1 13.2 - 17.1	8 (1,326)	0.6 0.2 - 1.0	80 (1,326)	6.0 4.7 - 7.4
By NZDep2006	Lower	258 (2,598)	10.0 8.8 - 11.2	81 (2,598)	3.1 2.5 - 3.8	37 (2,598)	1.4 0.8 - 2.0	35 (2,598)	1.3 0.9 - 1.8	18 (2,598)	0.7 0.3 - 1.1	57 (2,598)	2.2 1.6 - 2.8	26 (2,598)	1.0 0.6 - 1.4	28 (2,598)	1.1 0.7 - 1.5	427 (2,598)	16.4 14.8 - 18.1	14 (2,598)	0.5 0.2 - 0.9	122 (2,598)	4.7 3.8 - 5.6
	Medium	231 (2,809)	8.2 7.2 - 9.2	87 (2,809)	3.0 2.5 - 3.6	41 (2,809)	1.4 1.0 - 1.9	23 (2,809)	0.8 0.5 - 1.1	20 (2,809)	0.7 0.4 - 1.0	56 (2,809)	2.0 1.4 - 2.5	40 (2,809)	1.4 1.0 - 1.8	30 (2,809)	1.1 0.7 - 1.5	485 (2,809)	17.3 15.8 - 18.8	19 (2,809)	0.7 0.4 - 0.9	155 (2,809)	5.5 4.6 - 6.5
	Higher	174 (2,327)	7.5 6.3 - 8.6	111 (2,327)	4.7 3.7 - 5.8	87 (2,327)	3.8 2.6 - 4.9	38 (2,327)	1.6 1.1 - 2.1	27 (2,327)	1.2 0.6 - 1.8	53 (2,327)	2.3 1.6 - 2.9	49 (2,327)	2.1 1.5 - 2.7	46 (2,327)	2.0 1.3 - 2.7	376 (2,327)	16.3 14.4 - 18.2	34 (2,327)	1.5 0.9 - 2.1	161 (2,327)	7.0 5.8 - 8.2
By Geography	Urban	550 (6,563)	8.4 7.7 - 9.1	243 (6,563)	3.7 3.2 - 4.2	152 (6,563)	2.3 1.7 - 2.9	80 (6,563)	1.2 0.9 - 1.5	57 (6,563)	0.9 0.5 - 1.2	135 (6,563)	2.1 1.7 - 2.4	99 (6,563)	1.5 1.1 - 1.9	91 (6,563)	1.4 1.0 - 1.7	1,085 (6,563)	16.6 15.5 - 17.6	61 (6,563)	0.9 0.6 - 1.2	383 (6,563)	5.9 5.1 - 6.6
	Rural	113 (1,171)	9.5 8.0 - 11.1	36 (1,171)	3.0 1.9 - 4.0	13 (1,171)	1.0 0.4 - 1.6	16 (1,171)	1.3 0.6 - 2.0	8 (1,171)	0.6 0.2 - 1.1	31 (1,171)	2.5 1.5 - 3.6	16 (1,171)	1.3 0.6 - 2.0	13 (1,171)	1.1 0.5 - 1.8	203 (1,171)	17.4 14.8 - 19.9	6 (1,171)	0.5 0.1 - 0.9	55 (1,171)	4.7 3.4 - 5.9

Appendix C Number of gambling activities that students have participated in over the past 12 months (all students)

		0		1		2 - 3		4 - 5		6 or more	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		5923 (7813)	75.8 74.7 - 76.9	1109 (7813)	14.3 13.4 - 15.1	631 (7813)	8.1 7.4 - 8.8	82 (7813)	1.1 0.8 - 1.3	68 (7813)	0.9 0.6 - 1.1
By Sex	Male	2545 (3456)	73.6 71.9 - 75.3	520 (3456)	15.1 13.8 - 16.5	297 (3456)	8.5 7.5 - 9.6	48 (3456)	1.4 1.0 - 1.8	46 (3456)	1.3 0.8 - 1.8
	Female	3377 (4355)	77.5 76.4 - 78.6	589 (4355)	13.6 12.6 - 14.6	333 (4355)	7.7 6.9 - 8.5	34 (4355)	0.8 0.5 - 1.1	22 (4355)	0.5 0.3 - 0.7
By Age	13 and under	1271 (1679)	75.7 73.4 - 78.0	262 (1679)	15.6 13.8 - 17.3	109 (1679)	6.5 5.0 - 8.0	19 (1679)	1.1 0.5 - 1.8	18 (1679)	1.1 0.5 - 1.6
	14	1355 (1760)	76.8 74.9 - 78.8	247 (1760)	14.2 12.6 - 15.7	126 (1760)	7.2 6.0 - 8.4	16 (1760)	0.9 0.5 - 1.4	16 (1760)	0.9 0.3 - 1.5
	15	1218 (1594)	76.4 74.7 - 78.1	223 (1594)	14.0 12.5 - 15.6	127 (1594)	8.0 6.7 - 9.3	12 (1594)	0.8 0.3 - 1.2	14 (1594)	0.9 0.4 - 1.3
	16	1088 (1444)	75.3 72.6 - 78.0	190 (1444)	13.3 11.5 - 15.0	135 (1444)	9.3 7.6 - 11.0	20 (1444)	1.4 0.8 - 2.0	11 (1444)	0.7 0.3 - 1.2
	17 and over	985 (1326)	74.3 72.1 - 76.5	185 (1326)	14.0 12.2 - 15.7	133 (1326)	10.0 8.5 - 11.6	14 (1326)	1.0 0.4 - 1.6	9 (1326)	0.7 0.2 - 1.1
By NZDep2006	Lower	1959 (2598)	75.3 73.3 - 77.4	402 (2598)	15.5 14.0 - 17.1	198 (2598)	7.6 6.5 - 8.8	23 (2598)	0.9 0.5 - 1.2	16 (2598)	0.6 0.3 - 0.9
	Medium	2142 (2809)	76.2 74.6 - 77.9	396 (2809)	14.1 12.7 - 15.5	221 (2809)	7.9 6.7 - 9.0	32 (2809)	1.2 0.8 - 1.6	18 (2809)	0.6 0.3 - 0.9
	Higher	1762 (2327)	75.6 73.7 - 77.5	301 (2327)	13.1 11.7 - 14.4	209 (2327)	8.9 7.3 - 10.6	24 (2327)	1.0 0.6 - 1.5	31 (2327)	1.4 0.8 - 1.9
By Geography	Urban	4983 (6563)	75.9 74.7 - 77.0	919 (6563)	14.1 13.2 - 14.9	541 (6563)	8.2 7.5 - 9.0	64 (6563)	1.0 0.7 - 1.2	56 (6563)	0.9 0.6 - 1.1
	Rural	880 (1171)	75.2 72.5 - 77.8	180 (1171)	15.5 13.2 - 17.9	87 (1171)	7.3 5.9 - 8.8	15 (1171)	1.3 0.6 - 2.0	9 (1171)	0.7 0.2 - 1.2

Appendix D Social context of gambling – who students usually gamble with (among students who have gambled in last 12 months)

		Friends		Family		Other people I know		Other people I don't know (e.g. people online)		By myself	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		1319 (1975)	66.8 64.6 - 69.1	1185 (1975)	60.1 57.3 - 62.9	98 (1975)	4.9 3.8 - 6.1	48 (1975)	2.4 1.7 - 3.2	174 (1975)	8.7 7.3 - 10.2
By Sex	Male	677 (979)	69.1 66.2 - 72.1	540 (979)	55.4 51.8 - 58.9	50 (979)	5.1 3.6 - 6.5	31 (979)	3.1 2.1 - 4.2	92 (979)	9.4 7.1 - 11.6
	Female	641 (995)	64.5 61.6 - 67.5	645 (995)	64.9 61.6 - 68.2	48 (995)	4.8 3.2 - 6.5	17 (995)	1.7 0.8 - 2.6	82 (995)	8.2 6.3 - 10.0
By Age	13 and under	281 (421)	66.8 62.8 - 70.7	272 (421)	65.2 59.7 - 70.7	21 (421)	5.1 3.0 - 7.2	14 (421)	3.4 1.4 - 5.4	34 (421)	7.9 5.3 - 10.5
	14	251 (426)	59.1 54.7 - 63.5	271 (426)	63.5 58.2 - 68.7	20 (426)	4.7 2.8 - 6.6	6 (426)	1.4 0.1 - 2.7	47 (426)	11.1 8.1 - 14.0
	15	260 (389)	66.8 62.0 - 71.7	245 (389)	63.1 58.4 - 67.9	27 (389)	6.9 4.3 - 9.5	8 (389)	2.1 0.8 - 3.3	27 (389)	6.9 4.2 - 9.6
	16	276 (379)	72.6 67.0 - 78.3	214 (379)	56.6 51.0 - 62.1	14 (379)	3.6 1.6 - 5.6	11 (379)	2.8 1.2 - 4.3	29 (379)	7.6 4.5 - 10.6
	17 and over	249 (356)	70.1 65.1 - 75.1	180 (356)	50.5 44.6 - 56.4	16 (356)	4.5 2.2 - 6.9	9 (356)	2.5 0.5 - 4.5	36 (356)	10.0 7.1 - 12.9
By NZDep2006	Lower	418 (659)	63.5 59.5 - 67.5	411 (659)	62.5 57.7 - 67.4	25 (659)	3.7 2.1 - 5.4	7 (659)	1.1 0.2 - 1.9	49 (659)	7.3 5.4 - 9.3
	Medium	477 (686)	69.5 66.3 - 72.7	414 (686)	60.5 56.1 - 64.9	33 (686)	4.8 3.1 - 6.6	18 (686)	2.6 1.4 - 3.7	55 (686)	8.1 5.7 - 10.4
	Higher	409 (607)	67.5 64.5 - 70.5	351 (607)	57.9 53.4 - 62.5	40 (607)	6.6 4.6 - 8.6	21 (607)	3.5 1.9 - 5.1	68 (607)	11.1 8.5 - 13.7
By Geography	Urban	1089 (1642)	66.4 64.0 - 68.7	973 (1642)	59.4 56.7 - 62.1	84 (1642)	5.1 3.8 - 6.4	44 (1642)	2.7 1.8 - 3.5	155 (1642)	9.4 7.7 - 11.0
	Rural	215 (310)	69.5 63.9 - 75.2	203 (310)	65.9 59.6 - 72.1	14 (310)	4.4 2.1 - 6.6	few or none	–	17 (310)	5.4 3.0 - 7.7

Appendix E Acceptability of gambling activities - which modes of gambling do students think it is ok for people their age to play or do regularly (all students)

		Instant Kiwi (stratchies)		Lotto (incl. Strike, Powerball, Big Wednesday)		Bingo or housie		Pub or Club Pokies		Casino pokies or tables		TAB betting		Games and gambling on a cell/mobile phone for money or prizes		Gambling on the Internet for money or prizes (e.g. internet casinos or poker)		Bets with friends or family		0900 phone games		Cards or coin games (e.g. poker)		None of these	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		3015 (8027)	37.7 35.2 - 40.1	1721 (8027)	21.5 20.3 - 22.6	1337 (8027)	16.7 15.4 - 18.0	281 (8027)	3.5 2.9 - 4.1	182 (8027)	2.2 1.8 - 2.7	431 (8027)	5.4 4.5 - 6.2	718 (8027)	9.0 8.2 - 9.7	246 (8027)	3.0 2.5 - 3.6	3919 (8027)	49.0 46.6 - 51.4	279 (8027)	3.5 2.9 - 4.0	2093 (8027)	26.2 24.9 - 27.4	2459 (8027)	30.5 28.4 - 32.5
By Sex	Male	1275 (3587)	35.7 32.7 - 38.7	753 (3587)	21.0 19.5 - 22.5	562 (3587)	15.7 14.1 - 17.2	164 (3587)	4.6 3.6 - 5.5	124 (3587)	3.4 2.8 - 4.1	263 (3587)	7.3 5.9 - 8.7	345 (3587)	9.7 8.8 - 10.5	168 (3587)	4.7 3.8 - 5.5	1615 (3587)	45.2 42.4 - 48.0	151 (3587)	4.2 3.5 - 4.9	1002 (3587)	28.0 26.1 - 30.0	1163 (3587)	32.2 29.6 - 34.8
	Female	1738 (4438)	39.2 36.5 - 41.9	967 (4483)	21.8 20.5 - 23.1	774 (4438)	17.5 15.9 - 19.1	116 (4438)	2.6 2.1 - 3.2	58 (4438)	1.3 0.9 - 1.7	167 (4438)	3.8 3.1 - 4.4	372 (4438)	8.4 7.4 - 9.4	78 (4438)	1.7 1.3 - 2.2	2303 (4438)	52.1 49.3 - 54.8	128 (4438)	2.9 2.2 - 3.5	1090 (4438)	24.6 23.4 - 25.9	1296 (4438)	29.1 26.8 - 31.4
By Age	13 and under	564 (1719)	32.9 29.7 - 36.2	306 (1719)	17.8 15.9 - 19.7	310 (1719)	18.1 15.9 - 20.3	39 (1719)	2.3 1.3 - 3.2	37 (1719)	2.1 1.3 - 2.8	75 (1719)	4.4 3.3 - 5.5	141 (1719)	8.2 6.5 - 10.0	45 (1719)	2.6 1.7 - 3.5	769 (1719)	45.0 41.4 - 48.6	83 (1719)	4.8 3.6 - 6.1	353 (1719)	20.6 18.8 - 22.5	595 (1719)	34.3 30.9 - 37.7
	14	693 (1797)	38.7 35.5 - 41.8	316 (1797)	17.6 15.7 - 19.6	319 (1797)	17.8 15.8 - 19.7	41 (1797)	2.3 1.5 - 3.1	27 (1797)	1.5 0.9 - 2.0	74 (1797)	4.1 3.3 - 4.8	160 (1797)	8.9 7.7 - 10.2	44 (1797)	2.4 1.7 - 3.1	846 (1797)	47.3 44.2 - 50.4	60 (1797)	3.3 2.4 - 4.2	456 (1797)	25.5 23.4 - 27.5	565 (1797)	31.3 28.5 - 34.1
	15	641 (1652)	38.9 35.5 - 42.4	335 (1652)	20.4 18.5 - 22.2	257 (1652)	15.6 13.8 - 17.4	46 (1652)	2.8 2.0 - 3.6	31 (1652)	1.8 1.3 - 2.4	86 (1652)	5.2 4.0 - 6.4	165 (1652)	10.0 8.7 - 11.4	51 (1652)	3.1 2.3 - 3.9	828 (1652)	50.3 47.2 - 53.4	55 (1652)	3.3 2.4 - 4.2	457 (1652)	27.8 25.4 - 30.1	493 (1652)	29.6 27.0 - 32.3
	16	569 (1493)	38.2 35.1 - 41.2	359 (1493)	24.0 21.8 - 26.2	260 (1493)	17.5 15.1 - 19.8	57 (1493)	3.8 2.8 - 4.9	37 (1493)	2.5 1.5 - 3.4	80 (1493)	5.4 3.8 - 7.0	143 (1493)	9.6 8.1 - 11.1	59 (1493)	3.9 2.8 - 5.1	811 (1493)	54.4 51.3 - 57.4	41 (1493)	2.7 1.9 - 3.5	447 (1493)	30.0 27.5 - 32.5	410 (1493)	27.4 25.0 - 29.8
	17 and over	545 (1356)	40.3 36.5 - 44.1	405 (1356)	29.8 26.7 - 32.8	190 (1356)	14.0 11.9 - 16.0	98 (1356)	7.2 5.4 - 9.1	50 (1356)	3.7 2.4 - 5.0	115 (1356)	8.5 6.7 - 10.2	108 (1356)	8.0 6.2 - 9.8	47 (1356)	3.4 2.2 - 4.6	661 (1356)	48.8 45.6 - 52.0	39 (1356)	2.9 2.0 - 3.8	378 (1356)	28.0 25.2 - 30.7	391 (1356)	28.8 25.9 - 31.8
By NZDep2006	Lower	1103 (2636)	42.0 39.9 - 44.2	573 (2636)	21.9 20.4 - 23.3	392 (2636)	14.9 12.9 - 16.9	89 (2636)	3.4 2.5 - 4.3	43 (2636)	1.6 1.0 - 2.3	156 (2636)	5.9 4.6 - 7.3	196 (2636)	7.5 6.3 - 8.7	72 (2636)	2.8 1.9 - 3.6	1462 (2636)	55.6 53.6 - 57.6	77 (2636)	3.0 2.1 - 3.8	714 (2636)	27.2 25.0 - 29.4	689 (2636)	25.9 24.1 - 27.7
	Medium	1125 (2886)	39.0 36.4 - 41.7	620 (2886)	21.5 19.6 - 23.4	479 (2886)	16.6 14.9 - 18.3	114 (2886)	3.9 3.1 - 4.8	79 (2886)	2.7 2.0 - 3.4	175 (2886)	6.0 4.9 - 7.1	252 (2886)	8.7 7.6 - 9.8	101 (2886)	3.5 2.7 - 4.3	1421 (2886)	49.4 46.9 - 51.8	90 (2886)	3.1 2.4 - 3.8	755 (2886)	26.2 24.4 - 28.0	881 (2886)	30.4 28.0 - 32.8
	Higher	754 (2420)	31.2 27.1 - 35.3	514 (2420)	21.1 19.3 - 23.0	451 (2420)	18.7 16.9 - 20.5	71 (2420)	2.9 2.1 - 3.8	57 (2420)	2.3 1.7 - 2.9	92 (2420)	3.8 2.9 - 4.7	257 (2420)	10.7 9.6 - 11.8	68 (2420)	2.8 2.2 - 3.4	994 (2420)	41.2 37.8 - 44.6	107 (2420)	4.3 3.4 - 5.3	597 (2420)	24.8 22.3 - 27.2	867 (2420)	35.7 32.5 - 39.0
By Geography	Urban	2448 (6731)	36.5 33.9 - 39.1	1429 (6731)	21.2 20.0 - 22.5	1115 (6731)	16.6 15.2 - 18.0	222 (6731)	3.3 2.7 - 3.9	144 (6731)	2.1 1.7 - 2.6	342 (6731)	5.1 4.2 - 5.9	596 (6731)	8.9 8.1 - 9.7	207 (6731)	3.1 2.5 - 3.6	3244 (6731)	48.3 45.7 - 50.9	237 (6731)	3.5 3.0 - 4.1	1745 (6731)	26.0 24.6 - 27.3	2126 (6731)	31.4 29.3 - 33.6
	Rural	534 (1211)	44.3 41.3 - 47.3	278 (1211)	23.0 20.4 - 25.5	207 (1211)	16.9 14.7 - 19.1	52 (1211)	4.2 3.0 - 5.4	35 (1211)	2.7 1.6 - 3.8	81 (1211)	6.7 4.9 - 8.5	109 (1211)	9.0 7.6 - 10.4	34 (1211)	2.7 1.9 - 3.5	633 (1211)	53.0 50.0 - 55.9	37 (1211)	2.9 1.8 - 3.9	321 (1211)	26.9 23.9 - 29.8	311 (1211)	25.3 22.8 - 27.7

Appendix F Reasons for gambling (among students who have gambled in last 12 months)

		To have fun		To win money		Because I am bored		To relax		To feel better about myself		To forget about things		Because my friends do		Because my family does		For a challenge		Because I can't stop		Because I am short of money		To get a buzz		Because I am lonely		None of these	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		1254 (2091)	60.0 57.7 - 62.3	663 (2091)	31.7 29.2 - 34.3	368 (2091)	17.6 15.7 - 19.4	112 (2091)	5.4 4.3 - 6.4	32 (2091)	1.5 1.0 - 2.0	53 (2091)	2.5 1.7 - 3.4	86 (2091)	4.1 3.1 - 5.1	88 (2091)	4.2 3.3 - 5.0	413 (2091)	19.7 17.9 - 21.6	14 (2091)	0.6 0.3 - 1.0	57 (2091)	2.7 1.9 - 3.5	85 (2091)	4.0 2.7 - 5.4	19 (2091)	0.9 0.5 - 1.3	573 (2091)	27.4 25.0 - 29.7
By Sex	Male	643 (1037)	62.1 59.1 - 65.2	361 (1037)	34.8 31.8 - 37.9	181 (1037)	17.4 15.2 - 19.5	81 (1037)	7.8 6.2 - 9.3	25 (1037)	2.3 1.5 - 3.2	36 (1037)	3.4 2.3 - 4.6	46 (1037)	4.3 3.1 - 5.6	25 (1037)	2.4 1.4 - 3.3	232 (1037)	22.4 20.1 - 24.6	9 (1037)	0.8 0.3 - 1.3	34 (1037)	3.2 2.2 - 4.2	37 (1037)	3.5 2.5 - 4.4	12 (1037)	1.0 0.5 - 1.6	256 (1037)	24.5 21.5 - 27.6
	Female	610 (1053)	57.9 54.7 - 61.2	301 (1053)	28.6 25.5 - 31.7	186 (1053)	17.7 14.8 - 20.5	30 (1053)	2.9 1.8 - 4.0	6 (1053)	0.6 0.1 - 1.1	16 (1053)	1.5 0.6 - 2.4	39 (1053)	3.7 2.2 - 5.2	62 (1053)	5.9 4.6 - 7.2	180 (1053)	17.1 14.7 - 19.5	few or none	–	22 (1053)	2.1 1.2 - 3.0	47 (1053)	4.5 2.1 - 6.8	6 (1053)	0.6 0.1 - 1.1	317 (1053)	30.2 27.1 - 33.2
By Age	13 and under	267 (459)	58.3 53.0 - 63.6	114 (459)	24.8 20.9 - 28.6	92 (459)	20.0 15.7 - 24.3	19 (459)	4.3 1.7 - 6.9	7 (459)	1.5 0.5 - 2.5	14 (459)	3.0 1.6 - 4.5	19 (459)	4.0 2.4 - 5.7	20 (459)	4.4 2.2 - 6.5	78 (459)	17.2 13.2 - 21.2	few or none	–	15 (459)	3.3 1.7 - 4.9	13 (459)	2.8 1.0 - 4.6	few or none	–	141 (459)	30.6 26.2 - 35.1
	14	264 (450)	58.7 54.2 - 63.1	134 (450)	29.8 25.8 - 33.8	78 (450)	17.1 13.7 - 20.6	29 (450)	6.4 3.9 - 9.0	11 (450)	2.3 0.9 - 3.8	17 (450)	3.7 1.9 - 5.5	19 (450)	4.1 1.9 - 6.3	23 (450)	5.0 2.8 - 7.2	83 (450)	18.3 14.8 - 21.7	few or none	–	13 (450)	2.8 1.3 - 4.2	24 (450)	5.3 2.7 - 7.9	few or none	–	125 (450)	27.8 23.7 - 32.0
	15	241 (419)	57.8 52.7 - 62.9	127 (419)	30.4 26.1 - 34.7	78 (419)	18.7 14.9 - 22.4	20 (419)	4.8 2.7 - 6.9	6 (419)	1.4 0.2 - 2.7	8 (419)	1.9 0.5 - 3.3	15 (419)	3.6 1.9 - 5.3	11 (419)	2.6 1.2 - 4.1	79 (419)	19.0 16.0 - 22.0	few or none	–	12 (419)	2.9 1.4 - 4.4	17 (419)	4.1 1.9 - 6.3	few or none	–	134 (419)	31.7 26.3 - 37.2
	16	240 (393)	60.8 55.5 - 66.2	146 (393)	37.1 31.7 - 42.4	75 (393)	19.1 14.7 - 23.5	32 (393)	7.9 5.5 - 10.3	few or none	–	9 (393)	2.3 0.6 - 4.0	24 (393)	6.1 3.7 - 8.5	16 (393)	4.1 2.3 - 5.9	101 (393)	25.8 20.8 - 30.7	few or none	–	10 (393)	2.5 0.9 - 4.1	15 (393)	3.7 1.9 - 5.6	few or none	–	94 (393)	23.9 18.2 - 29.7
	17 and over	239 (366)	65.4 59.5 - 71.2	141 (366)	38.6 31.9 - 45.3	45 (366)	12.3 9.2 - 15.4	12 (366)	3.3 1.4 - 5.2	few or none	–	5 (366)	1.4 0.2 - 2.5	9 (366)	2.5 0.9 - 4.0	18 (366)	4.9 2.8 - 7.1	72 (366)	19.4 15.7 - 23.2	few or none	–	7 (366)	1.9 0.6 - 3.3	16 (366)	4.3 2.0 - 6.6	6 (366)	1.6 0.2 - 3.1	78 (366)	21.4 16.4 - 26.3
By NZDep2006	Lower	408 (685)	59.8 56.0 - 63.6	217 (685)	31.8 28.4 - 35.1	83 (685)	12.2 9.2 - 15.2	27 (685)	4.0 2.8 - 5.1	9 (685)	1.3 0.6 - 2.0	9 (685)	1.3 0.5 - 2.0	21 (685)	3.1 1.9 - 4.2	20 (685)	2.9 1.6 - 4.3	124 (685)	18.1 15.4 - 20.9	few or none	–	14 (685)	2.0 1.1 - 2.8	11 (685)	1.6 0.7 - 2.6	6 (685)	0.9 0.1 - 1.6	182 (685)	26.4 23.1 - 29.7
	Medium	439 (725)	60.4 56.9 - 63.8	221 (725)	30.5 26.2 - 34.8	124 (725)	17.0 13.9 - 20.1	46 (725)	6.3 4.6 - 8.0	10 (725)	1.3 0.6 - 2.0	19 (725)	2.6 1.5 - 3.6	32 (725)	4.4 2.8 - 6.0	33 (725)	4.5 3.0 - 6.0	150 (725)	20.6 17.4 - 23.9	few or none	–	18 (725)	2.4 1.5 - 3.4	27 (725)	3.5 2.3 - 4.8	6 (725)	0.7 0.1 - 1.2	211 (725)	29.1 25.5 - 32.7
	Higher	394 (656)	60.2 56.1 - 64.4	216 (656)	32.8 29.2 - 36.4	153 (656)	23.3 19.9 - 26.6	36 (656)	5.5 4.1 - 7.0	13 (656)	2.0 0.9 - 3.0	22 (656)	3.4 1.7 - 5.1	32 (656)	4.8 2.6 - 7.0	33 (656)	5.0 3.2 - 6.9	137 (656)	21.0 17.8 - 24.1	9 (656)	1.3 0.5 - 2.2	24 (656)	3.7 1.8 - 5.5	46 (656)	7.1 3.8 - 10.3	6 (656)	0.9 0.3 - 1.6	172 (656)	26.2 22.6 - 29.8
By Geography	Urban	1045 (1743)	60.0 57.5 - 62.5	564 (1743)	32.3 29.5 - 35.2	314 (1743)	18.0 16.2 - 19.9	94 (1743)	5.4 4.3 - 6.5	28 (1743)	1.6 1.0 - 2.2	44 (1743)	2.5 1.6 - 3.5	71 (1743)	4.1 2.9 - 5.2	70 (1743)	4.0 3.0 - 5.0	352 (1743)	20.2 18.3 - 22.1	11 (1743)	0.6 0.3 - 1.0	49 (1743)	2.8 1.9 - 3.6	75 (1743)	4.3 2.7 - 5.8	15 (1743)	0.8 0.4 - 1.2	476 (1743)	27.3 24.8 - 29.9
	Rural	196 (323)	61.1 55.2 - 66.9	90 (323)	28.0 22.0 - 33.9	46 (323)	13.9 9.4 - 18.5	15 (323)	4.5 2.5 - 6.5	few or none	–	6 (323)	1.8 0.5 - 3.1	14 (323)	4.1 1.8 - 6.5	16 (323)	4.9 2.2 - 7.6	59 (323)	18.3 13.9 - 22.6	few or none	–	7 (323)	2.1 0.3 - 3.8	9 (323)	2.7 1.0 - 4.4	few or none	–	89 (323)	27.1 22.0 - 32.3

Appendix G Parental gambling: Activities that parents/caregivers participate in (all students)

		Instant Kiwi (stratchies)		Lotto (incl. Strike, Powerball, Big Wednesday)		Bingo or housie		Pub or Club Pokies		Casino pokies or tables		TAB betting		Games and gambling on a cell/mobile phone for money or prizes		Gambling on the Internet for money or prizes (e.g. internet casinos or poker)		Bets with friends or family		0900 phone games		Cards or coin games (e.g. poker)		None of these	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		2687 (8029)	33.6 31.2 - 36.0	4502 (8029)	56.3 54.0 - 58.6	612 (8029)	7.6 5.8 - 9.5	483 (8029)	6.0 5.1 - 6.8	478 (8029)	6.0 4.9 - 7.0	777 (8029)	9.7 8.8 - 10.7	188 (8029)	2.3 1.8 - 2.8	172 (8029)	2.1 1.7 - 2.6	1599 (8029)	20.0 18.3 - 21.8	56 (8029)	0.7 0.5 - 0.9	846 (8029)	10.6 9.7 - 11.4	2477 (8029)	30.6 28.7 - 32.5
By Sex	Male	1085 (3589)	30.5 27.6 - 33.3	1813 (3589)	50.8 48.2 - 53.5	226 (3589)	6.3 4.8 - 7.7	196 (3589)	5.4 4.3 - 6.5	168 (3589)	4.7 3.9 - 5.5	313 (3589)	8.8 7.6 - 10.0	76 (3589)	2.1 1.6 - 2.7	75 (3589)	2.1 1.6 - 2.6	638 (3589)	17.9 15.5 - 20.4	30 (3589)	0.8 0.5 - 1.2	347 (3589)	9.7 8.6 - 10.9	1237 (3589)	34.1 31.6 - 36.7
	Female	1600 (4438)	36.1 33.2 - 39.0	2687 (4438)	60.7 58.3 - 63.1	384 (4438)	8.7 6.0 - 11.4	285 (4438)	6.4 5.5 - 7.2	308 (4438)	7.0 5.4 - 8.5	462 (4438)	10.4 9.3 - 11.6	111 (4438)	2.5 1.9 - 3.2	96 (4438)	2.2 1.6 - 2.7	960 (4438)	21.7 19.7 - 23.7	26 (4438)	0.6 0.3 - 0.9	498 (4438)	11.3 10.2 - 12.4	1240 (4438)	27.8 25.9 - 29.6
By Age	13 and under	597 (1727)	34.8 31.4 - 38.1	943 (1727)	54.9 51.7 - 58.1	155 (1727)	9.0 6.8 - 11.2	85 (1727)	4.9 3.9 - 5.9	93 (1727)	5.4 4.0 - 6.8	147 (1727)	8.6 7.3 - 9.9	47 (1727)	2.8 1.8 - 3.7	37 (1727)	2.2 1.5 - 2.8	351 (1727)	20.4 18.0 - 22.9	14 (1727)	0.8 0.4 - 1.3	184 (1727)	10.7 9.0 - 12.5	508 (1727)	29.1 26.3 - 31.9
	14	645 (1802)	36.0 32.6 - 39.5	1027 (1802)	57.4 54.5 - 60.2	170 (1802)	9.4 7.3 - 11.5	120 (1802)	6.6 5.2 - 8.0	104 (1802)	5.7 4.1 - 7.3	176 (1802)	9.8 8.1 - 11.4	48 (1802)	2.6 1.8 - 3.4	50 (1802)	2.7 2.0 - 3.5	403 (1802)	22.5 19.9 - 25.2	15 (1802)	0.8 0.3 - 1.3	214 (1802)	11.9 10.4 - 13.4	516 (1802)	28.3 25.5 - 31.0
	15	580 (1652)	35.3 31.6 - 38.9	943 (1652)	57.3 53.8 - 60.8	120 (1652)	7.2 5.0 - 9.4	109 (1652)	6.6 5.1 - 8.1	101 (1652)	6.2 4.6 - 7.7	187 (1652)	11.4 9.4 - 13.3	47 (1652)	2.9 2.0 - 3.8	32 (1652)	1.9 1.1 - 2.8	368 (1652)	22.4 19.6 - 25.3	9 (1652)	0.5 0.2 - 0.9	196 (1652)	12.0 10.1 - 13.9	486 (1652)	29.2 26.1 - 32.3
	16	467 (1490)	31.4 28.6 - 34.2	827 (1490)	55.7 52.6 - 58.7	105 (1490)	7.1 4.4 - 9.8	82 (1490)	5.4 4.0 - 6.8	97 (1490)	6.5 4.9 - 8.2	135 (1490)	9.1 7.4 - 10.7	27 (1490)	1.8 0.9 - 2.6	31 (1490)	2.1 1.1 - 3.1	284 (1490)	19.2 16.9 - 21.4	10 (1490)	0.7 0.2 - 1.1	155 (1490)	10.5 8.8 - 12.2	497 (1490)	33.2 30.7 - 35.7
	17 and over	394 (1348)	29.3 26.2 - 32.3	757 (1348)	56.2 52.6 - 59.8	62 (1348)	4.6 2.8 - 6.5	87 (1348)	6.4 5.0 - 7.7	82 (1348)	6.1 4.5 - 7.7	129 (1348)	9.6 7.9 - 11.3	18 (1348)	1.4 0.7 - 2.0	21 (1348)	1.6 0.9 - 2.2	190 (1348)	14.1 11.7 - 16.5	8 (1348)	0.6 0.2 - 1.0	95 (1348)	7.0 5.7 - 8.3	468 (1348)	34.7 31.5 - 37.8
By NZDep2006	Lower	885 (2638)	33.7 31.2 - 36.3	1535 (2638)	58.5 55.8 - 61.1	83 (2638)	3.1 2.3 - 3.9	123 (2638)	4.7 3.7 - 5.7	102 (2638)	3.9 3.1 - 4.6	249 (2638)	9.5 8.0 - 11.1	29 (2638)	1.1 0.7 - 1.5	30 (2638)	1.1 0.7 - 1.6	607 (2638)	23.1 20.5 - 25.7	10 (2638)	0.4 0.1 - 0.7	258 (2638)	9.8 8.7 - 10.9	771 (2638)	29.0 26.7 - 31.2
	Medium	1021 (2879)	35.5 32.9 - 38.1	1647 (2879)	57.4 54.8 - 60.0	165 (2879)	5.7 4.5 - 7.0	160 (2879)	5.5 4.4 - 6.5	163 (2879)	5.7 4.5 - 6.8	268 (2879)	9.3 8.0 - 10.5	62 (2879)	2.1 1.6 - 2.7	53 (2879)	1.8 1.3 - 2.4	554 (2879)	19.3 17.5 - 21.1	18 (2879)	0.6 0.3 - 1.0	274 (2879)	9.6 8.5 - 10.7	883 (2879)	30.5 28.1 - 32.8
	Higher	759 (2430)	31.4 27.0 - 35.9	1283 (2430)	53.0 49.4 - 56.6	360 (2430)	14.9 11.2 - 18.6	193 (2430)	7.8 6.5 - 9.2	209 (2430)	8.6 6.5 - 10.8	253 (2430)	10.5 9.2 - 11.8	93 (2430)	3.9 2.9 - 4.8	86 (2430)	3.6 2.8 - 4.4	415 (2430)	17.2 15.0 - 19.4	25 (2430)	1.1 0.6 - 1.5	300 (2430)	12.4 10.6 - 14.3	792 (2430)	32.3 29.6 - 35.0
By Geography	Urban	2212 (6737)	33.0 30.3 - 35.6	3732 (6737)	55.6 53.1 - 58.1	543 (6737)	8.1 5.9 - 10.3	397 (6737)	5.9 5.0 - 6.8	437 (6737)	6.5 5.4 - 7.7	652 (6737)	9.7 8.7 - 10.8	156 (6737)	2.3 1.8 - 2.9	150 (6737)	2.2 1.7 - 2.7	1286 (6737)	19.2 17.4 - 20.9	48 (6737)	0.7 0.5 - 1.0	706 (6737)	10.5 9.5 - 11.5	2119 (6737)	31.2 29.1 - 33.3
	Rural	453 (1210)	37.6 34.6 - 40.7	733 (1210)	61.1 57.8 - 64.4	65 (1210)	5.3 3.7 - 6.8	79 (1210)	6.2 4.7 - 7.8	37 (1210)	2.9 1.8 - 4.0	118 (1210)	9.8 7.6 - 11.9	28 (1210)	2.3 1.4 - 3.2	19 (1210)	1.5 0.9 - 2.1	290 (1210)	24.3 21.3 - 27.2	few or none	–	126 (1210)	10.4 9.0 - 11.8	327 (1210)	26.6 24.0 - 29.2

Appendix H Peer gambling: Activities that friends participate in (all students)

		Instant Kiwi (stratchies)		Lotto (incl. Strike, Powerball, Big Wednesday)		Bingo or housie		Pub or Club Pokies		Casino pokies or tables		TAB betting		Games and gambling on a cell/mobile phone for money or prizes		Gambling on the Internet for money or prizes (e.g. internet casinos or poker)		Bets with friends or family		0900 phone games		Cards or coin games (e.g. poker)		None of these	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		1534 (7934)	19.4 17.6 - 21.2	679 (7934)	8.5 7.7 - 9.3	455 (7934)	5.7 4.7 - 6.7	200 (7934)	2.5 2.1 - 2.9	137 (7934)	1.7 1.4 - 2.1	225 (7934)	2.8 2.4 - 3.3	368 (7934)	4.6 4.0 - 5.3	177 (7934)	2.2 1.9 - 2.6	2625 (7934)	33.2 31.7 - 34.8	155 (7934)	1.9 1.5 - 2.3	1378 (7934)	17.4 16.3 - 18.4	3974 (7934)	50.0 48.6 - 51.4
By Sex	Male	596 (3531)	17.0 15.0 - 19.0	290 (3531)	8.2 7.2 - 9.1	177 (3531)	5.0 4.1 - 5.9	92 (3531)	2.6 2.0 - 3.2	75 (3531)	2.1 1.6 - 2.6	123 (3531)	3.5 2.7 - 4.3	172 (3531)	4.9 4.1 - 5.7	105 (3531)	3.0 2.4 - 3.5	1091 (3531)	31.1 29.4 - 32.8	79 (3531)	2.2 1.7 - 2.7	680 (3531)	19.3 17.9 - 20.7	1802 (3531)	50.9 48.9 - 52.9
	Female	936 (4401)	21.3 19.2 - 23.4	389 (4401)	8.8 7.7 - 9.8	276 (4401)	6.3 4.9 - 7.7	107 (4401)	2.4 1.9 - 3.0	62 (4401)	1.4 1.0 - 1.8	102 (4401)	2.3 1.8 - 2.8	196 (4401)	4.4 3.6 - 5.3	72 (4401)	1.6 1.2 - 2.1	1533 (4401)	34.9 32.9 - 36.9	76 (4401)	1.7 1.2 - 2.2	697 (4401)	15.8 14.6 - 17.0	2172 (4401)	49.3 47.5 - 51.1
By Age	13 and under	301 (1693)	17.8 15.2 - 20.4	103 (1693)	6.1 5.0 - 7.1	126 (1693)	7.5 5.9 - 9.0	21 (1693)	1.3 0.7 - 1.8	23 (1693)	1.4 0.8 - 1.9	25 (1693)	1.5 1.0 - 2.0	84 (1693)	5.1 3.9 - 6.2	36 (1693)	2.2 1.4 - 2.9	513 (1693)	30.5 28.2 - 32.8	42 (1693)	2.5 1.8 - 3.2	230 (1693)	13.5 11.8 - 15.3	903 (1693)	53.3 50.5 - 56.2
	14	348 (1780)	19.7 17.4 - 21.9	123 (1780)	6.9 5.7 - 8.0	102 (1780)	5.7 4.2 - 7.3	20 (1780)	1.1 0.7 - 1.5	23 (1780)	1.3 0.7 - 1.8	31 (1780)	1.7 1.2 - 2.3	88 (1780)	4.9 3.8 - 6.0	33 (1780)	1.8 1.1 - 2.6	574 (1780)	32.5 30.0 - 34.9	40 (1780)	2.2 1.4 - 3.0	277 (1780)	15.6 13.7 - 17.4	923 (1780)	51.7 49.0 - 54.3
	15	310 (1629)	19.1 16.3 - 21.9	117 (1629)	7.2 6.0 - 8.3	92 (1629)	5.7 4.3 - 7.0	23 (1629)	1.4 0.9 - 2.0	26 (1629)	1.6 1.0 - 2.3	53 (1629)	3.2 2.4 - 4.1	84 (1629)	5.2 3.8 - 6.5	33 (1629)	2.0 1.2 - 2.8	574 (1629)	35.3 32.9 - 37.8	31 (1629)	1.9 1.3 - 2.6	309 (1629)	19.0 16.8 - 21.1	802 (1629)	49.1 46.5 - 51.7
	16	246 (1480)	16.6 14.7 - 18.6	140 (1480)	9.3 7.7 - 10.9	84 (1480)	5.6 4.2 - 7.0	45 (1480)	3.0 2.2 - 3.8	26 (1480)	1.7 1.0 - 2.3	40 (1480)	2.7 1.7 - 3.7	67 (1480)	4.5 3.0 - 6.0	42 (1480)	2.8 1.8 - 3.8	529 (1480)	35.8 32.7 - 38.8	27 (1480)	1.8 1.2 - 2.4	292 (1480)	19.8 17.6 - 22.0	722 (1480)	48.8 45.9 - 51.7
	17 and over	326 (1342)	24.4 20.5 - 28.2	196 (1342)	14.5 12.1 - 16.9	50 (1342)	3.7 2.3 - 5.1	90 (1342)	6.7 5.1 - 8.3	39 (1342)	2.9 1.9 - 3.9	75 (1342)	5.6 4.2 - 7.0	45 (1342)	3.3 2.2 - 4.5	33 (1342)	2.5 1.6 - 3.3	432 (1342)	32.3 29.8 - 34.8	14 (1342)	1.0 0.4 - 1.6	268 (1342)	20.0 17.8 - 22.2	619 (1342)	46.0 42.8 - 49.2
By NZDep2006	Lower	568 (2618)	21.7 19.5 - 24.0	225 (2618)	8.5 7.3 - 9.8	97 (2618)	3.7 2.8 - 4.5	69 (2618)	2.6 1.9 - 3.3	30 (2618)	1.1 0.6 - 1.6	81 (2618)	3.1 2.2 - 4.0	86 (2618)	3.3 2.5 - 4.0	47 (2618)	1.8 1.2 - 2.4	964 (2618)	37.0 34.9 - 39.0	37 (2618)	1.4 0.9 - 1.9	461 (2618)	17.6 15.9 - 19.4	1235 (2618)	47.1 44.8 - 49.3
	Medium	571 (2839)	20.1 18.0 - 22.2	252 (2839)	8.8 7.6 - 10.0	128 (2839)	4.5 3.6 - 5.4	70 (2839)	2.4 1.9 - 3.0	46 (2839)	1.6 1.2 - 2.0	83 (2839)	2.9 2.3 - 3.5	112 (2839)	3.9 3.0 - 4.8	53 (2839)	1.8 1.3 - 2.4	922 (2839)	32.6 30.6 - 34.5	46 (2839)	1.6 1.1 - 2.1	474 (2839)	16.7 15.0 - 18.4	1441 (2839)	50.7 48.6 - 52.9
	Higher	383 (2395)	16.1 13.0 - 19.2	195 (2395)	8.1 7.1 - 9.1	225 (2395)	9.4 7.6 - 11.2	56 (2395)	2.4 1.7 - 3.0	58 (2395)	2.4 1.8 - 3.0	57 (2395)	2.4 1.8 - 3.0	162 (2395)	6.8 5.6 - 8.1	72 (2395)	3.1 2.4 - 3.7	709 (2395)	29.8 28.0 - 31.7	69 (2395)	2.8 2.0 - 3.7	423 (2395)	17.6 15.7 - 19.6	1258 (2395)	52.4 50.4 - 54.5
By Geography	Urban	1241 (6663)	18.7 16.7 - 20.7	545 (6663)	8.2 7.4 - 8.9	391 (6663)	5.9 4.8 - 7.0	154 (6663)	2.3 1.9 - 2.8	109 (6663)	1.6 1.3 - 2.0	170 (6663)	2.6 2.2 - 2.9	313 (6663)	4.7 4.0 - 5.4	153 (6663)	2.3 1.9 - 2.7	2186 (6663)	32.9 31.3 - 34.5	131 (6663)	2.0 1.5 - 2.4	1159 (6663)	17.4 16.2 - 18.6	3373 (6663)	50.5 49.0 - 52.0
	Rural	281 (1189)	23.7 21.2 - 26.2	127 (1189)	10.4 8.3 - 12.5	59 (1189)	4.8 3.6 - 6.0	41 (1189)	3.4 2.5 - 4.4	25 (1189)	2.0 1.1 - 2.8	51 (1189)	4.3 2.9 - 5.7	47 (1189)	3.9 2.9 - 4.9	19 (1189)	1.6 1.0 - 2.3	409 (1189)	34.9 32.2 - 37.7	21 (1189)	1.7 0.9 - 2.4	199 (1189)	16.6 14.2 - 19.0	561 (1189)	47.1 43.9 - 50.3

Appendix I Ever worry or feel anxious about how much money or time other people you live with spend gambling? (among students who have gambled in last 12 months)

		Yes		No, hardly ever		No, never		I don't know	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		220 (2072)	10.6 8.5 - 12.6	193 (2072)	9.3 8.0 - 10.7	1253 (2072)	60.6 56.8 - 64.4	406 (2072)	19.5 17.4 - 21.6
By Sex	Male	107 (1028)	10.3 8.2 - 12.3	93 (1028)	9.0 7.1 - 11.0	616 (1028)	60.3 55.7 - 64.9	212 (1028)	20.4 17.8 - 23.0
	Female	112 (1043)	10.8 8.0 - 13.5	100 (1043)	9.6 7.9 - 11.4	637 (1043)	60.9 56.4 - 65.5	194 (1043)	18.6 15.8 - 21.5
By Age	13 and under	61 (447)	13.5 9.5 - 17.4	38 (447)	8.6 6.0 - 11.2	235 (447)	52.9 47.1 - 58.7	113 (447)	25.0 20.9 - 29.1
	14	49 (445)	10.9 8.1 - 13.8	45 (445)	10.0 6.7 - 13.3	246 (445)	55.5 49.4 - 61.5	105 (445)	23.6 18.8 - 28.4
	15	38 (415)	9.1 6.3 - 11.9	32 (415)	7.7 4.9 - 10.5	271 (415)	65.3 59.5 - 71.1	74 (415)	17.9 13.5 - 22.3
	16	43 (395)	11.0 7.2 - 14.8	45 (395)	11.5 8.4 - 14.6	244 (395)	62.0 56.7 - 67.3	63 (395)	15.6 12.1 - 19.0
	17 and over	29 (366)	8.0 5.2 - 10.7	33 (366)	9.1 6.1 - 12.0	254 (366)	69.2 63.5 - 75.0	50 (366)	13.8 9.9 - 17.6
By NZDep2006	Lower	39 (682)	5.7 4.0 - 7.4	50 (682)	7.4 5.0 - 9.7	486 (682)	71.3 68.0 - 74.7	107 (682)	15.6 12.6 - 18.6
	Medium	48 (728)	6.5 4.4 - 8.7	67 (728)	9.1 7.2 - 11.1	472 (728)	65.1 61.7 - 68.5	141 (728)	19.2 16.6 - 21.9
	Higher	128 (638)	20.0 16.6 - 23.5	73 (638)	11.6 9.6 - 13.5	286 (638)	44.8 40.0 - 49.5	151 (638)	23.6 20.7 - 26.6
By Geography	Urban	198 (1724)	11.5 9.1 - 13.8	165 (1724)	9.6 8.1 - 11.0	1022 (1724)	59.3 55.1 - 63.5	339 (1724)	19.7 17.5 - 21.8
	Rural	17 (324)	4.8 2.5 - 7.2	25 (324)	7.8 4.9 - 10.6	222 (324)	69.6 64.4 - 74.8	60 (324)	17.8 13.2 - 22.4

Appendix J Impacts of gambling within student's family because of someone else's gambling (all students)

a) Had arguments or fights about time or money spent on betting or gambling (all students)

		Never		Not in the last 12 months		Once or more in the last 12 months	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		7431 (7860)	94.5 93.6 - 95.5	195 (7860)	2.5 1.9 - 3.1	234 (7860)	3.0 2.5 - 3.5
By Sex	Male	3333 (3482)	95.7 94.8 - 96.7	72 (3482)	2.1 1.5 - 2.7	77 (3482)	2.2 1.6 - 2.8
	Female	4097 (4376)	93.6 92.3 - 94.9	122 (4376)	2.8 2.0 - 3.6	157 (4376)	3.6 2.9 - 4.3
By Age	13 and under	1610 (1678)	95.9 94.6 - 97.3	33 (1678)	2.0 1.2 - 2.8	35 (1678)	2.1 1.3 - 2.9
	14	1652 (1762)	93.7 92.3 - 95.1	51 (1762)	2.9 1.9 - 3.8	59 (1762)	3.4 2.6 - 4.2
	15	1519 (1613)	94.1 92.8 - 95.5	39 (1613)	2.4 1.6 - 3.3	55 (1613)	3.4 2.5 - 4.4
	16	1378 (1461)	94.3 92.9 - 95.8	36 (1461)	2.4 1.5 - 3.3	47 (1461)	3.2 2.3 - 4.2
	17 and over	1263 (1336)	94.5 93.1 - 96.0	35 (1336)	2.6 1.5 - 3.7	38 (1336)	2.9 1.8 - 3.9
By NZDep2006	Lower	2546 (2621)	97.1 96.5 - 97.8	36 (2621)	1.4 1.0 - 1.7	39 (2621)	1.5 1.0 - 2.0
	Medium	2700 (2827)	95.5 94.6 - 96.4	45 (2827)	1.6 1.1 - 2.1	82 (2827)	2.9 2.2 - 3.6
	Higher	2111 (2332)	90.4 88.8 - 92.1	109 (2332)	4.7 3.5 - 5.8	112 (2332)	4.9 3.8 - 5.9
By Geography	Urban	6208 (6592)	94.1 93.1 - 95.2	172 (6592)	2.6 2.0 - 3.3	212 (6592)	3.2 2.6 - 3.8
	Rural	1149 (1188)	96.9 95.8 - 97.9	18 (1188)	1.4 0.7 - 2.1	21 (1188)	1.8 0.8 - 2.7

b) We had to go without something we needed (e.g. food) because too much money was spent on gambling or betting (all students)

		Never		Not in the last 12 months		Once or more in the last 12 months	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		7640 (7860)	97.2 96.5 - 97.9	115 (7860)	1.5 1.1 - 1.8	105 (7860)	1.3 1.0 - 1.7
By Sex	Male	3383 (3482)	97.2 96.4 - 98.0	55 (3482)	1.6 1.1 - 2.1	44 (3482)	1.3 0.8 - 1.7
	Female	4256 (4376)	97.2 96.5 - 98.0	59 (4376)	1.4 0.9 - 1.8	61 (4376)	1.4 0.9 - 1.9
By Age	13 and under	1634 (1678)	97.4 96.5 - 98.2	23 (1678)	1.4 0.7 - 2.1	21 (1678)	1.3 0.7 - 1.8
	14	1705 (1762)	96.8 95.8 - 97.7	32 (1762)	1.8 1.1 - 2.5	25 (1762)	1.4 0.9 - 2.0
	15	1567 (1613)	97.1 96.0 - 98.3	20 (1613)	1.2 0.6 - 1.9	26 (1613)	1.6 0.8 - 2.4
	16	1416 (1461)	97.0 95.9 - 98.0	24 (1461)	1.6 0.9 - 2.3	21 (1461)	1.4 0.8 - 2.1
	17 and over	1308 (1336)	97.9 97.1 - 98.7	16 (1336)	1.2 0.7 - 1.7	12 (1336)	0.9 0.3 - 1.5
By NZDep2006	Lower	2593 (2621)	98.9 98.6 - 99.3	19 (2621)	0.7 0.4 - 1.0	9 (2621)	0.3 0.1 - 0.6
	Medium	2770 (2827)	98.0 97.4 - 98.5	30 (2827)	1.1 0.6 - 1.5	27 (2827)	1.0 0.6 - 1.3
	Higher	2203 (2332)	94.4 93.2 - 95.7	62 (2332)	2.7 1.8 - 3.5	67 (2332)	2.9 2.2 - 3.7
By Geography	Urban	6395 (6592)	97.0 96.2 - 97.7	98 (6592)	1.5 1.0 - 1.9	99 (6592)	1.5 1.1 - 1.9
	Rural	1171 (1188)	98.7 98.1 - 99.3	13 (1188)	1.0 0.5 - 1.5	few or none	–

c) Some bills weren't paid because too much money was spent on gambling or betting (all students)

		Never		Not in the last 12 months		Once or more in the last 12 months	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		7622 (7860)	97.0 96.3 - 97.7	109 (7860)	1.4 1.0 - 1.8	129 (7860)	1.7 1.2 - 2.1
By Sex	Male	3387 (3482)	97.3 96.5 - 98.1	45 (3482)	1.3 0.8 - 1.7	50 (3482)	1.4 0.9 - 2.0
	Female	4234 (4376)	96.7 95.8 - 97.6	63 (4376)	1.4 1.0 - 1.9	79 (4376)	1.8 1.2 - 2.4
By Age	13 and under	1633 (1678)	97.3 96.4 - 98.2	23 (1678)	1.4 0.7 - 2.1	22 (1678)	1.3 0.8 - 1.9
	14	1695 (1762)	96.2 95.2 - 97.2	30 (1762)	1.7 1.0 - 2.4	37 (1762)	2.1 1.4 - 2.8
	15	1565 (1613)	97.0 95.8 - 98.2	22 (1613)	1.4 0.6 - 2.1	26 (1613)	1.6 0.7 - 2.5
	16	1416 (1461)	96.9 95.9 - 98.0	17 (1461)	1.1 0.6 - 1.7	28 (1461)	1.9 1.2 - 2.7
	17 and over	1304 (1336)	97.6 96.6 - 98.6	16 (1336)	1.2 0.6 - 1.8	16 (1336)	1.2 0.4 - 2.0
By NZDep2006	Lower	2591 (2621)	98.8 98.4 - 99.3	20 (2621)	0.8 0.4 - 1.1	10 (2621)	0.4 0.1 - 0.6
	Medium	2757 (2827)	97.5 96.9 - 98.2	28 (2827)	1.0 0.6 - 1.4	42 (2827)	1.5 1.0 - 1.9
	Higher	2197 (2332)	94.2 92.9 - 95.5	59 (2332)	2.5 1.7 - 3.3	76 (2332)	3.3 2.3 - 4.3
By Geography	Urban	6371 (6592)	96.6 95.8 - 97.4	97 (6592)	1.5 1.0 - 1.9	124 (6592)	1.9 1.4 - 2.4
	Rural	1174 (1188)	98.9 98.3 - 99.5	10 (1188)	0.8 0.3 - 1.2	few or none	–

d) They did things that could have got them into serious trouble (e.g. stealing) because of gambling or these activities (all students)

		Never		Not in the last 12 months		Once or more in the last 12 months	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		7725 (7860)	98.3 97.8 - 98.7	74 (7860)	0.9 0.6 - 1.3	61 (7860)	0.8 0.6 - 1.0
By Sex	Male	3408 (3482)	97.9 97.3 - 98.5	38 (3482)	1.1 0.6 - 1.5	36 (3482)	1.0 0.7 - 1.4
	Female	4316 (4376)	98.6 98.1 - 99.1	35 (4376)	0.8 0.5 - 1.1	25 (4376)	0.6 0.3 - 0.8
By Age	13 and under	1649 (1678)	98.3 97.6 - 98.9	19 (1678)	1.1 0.6 - 1.7	10 (1678)	0.6 0.2 - 1.0
	14	1727 (1762)	98.0 97.3 - 98.8	21 (1762)	1.2 0.5 - 1.9	14 (1762)	0.8 0.4 - 1.2
	15	1584 (1613)	98.2 97.4 - 99.0	15 (1613)	0.9 0.4 - 1.5	14 (1613)	0.9 0.4 - 1.3
	16	1436 (1461)	98.3 97.7 - 98.9	9 (1461)	0.6 0.2 - 1.0	16 (1461)	1.1 0.6 - 1.6
	17 and over	1320 (1336)	98.8 98.2 - 99.4	10 (1336)	0.8 0.3 - 1.2	6 (1336)	0.5 0.1 - 0.8
By NZDep2006	Lower	2597 (2621)	99.1 98.8 - 99.4	13 (2621)	0.5 0.2 - 0.7	11 (2621)	0.4 0.2 - 0.7
	Medium	2797 (2827)	98.9 98.5 - 99.3	14 (2827)	0.5 0.2 - 0.8	16 (2827)	0.6 0.3 - 0.8
	Higher	2254 (2332)	96.6 95.7 - 97.5	44 (2332)	1.9 1.2 - 2.5	34 (2332)	1.5 1.0 - 1.9
By Geography	Urban	6471 (6592)	98.2 97.6 - 98.7	65 (6592)	1.0 0.6 - 1.3	56 (6592)	0.9 0.6 - 1.1
	Rural	1177 (1188)	99.1 98.6 - 99.6	6 (1188)	0.5 0.1 - 0.8	few or none	–

Appendix K Problematic gambling amongst students (among students who have gambled in the last 12 months)

		Worried about how much time or money they spend on gambling activities		Tried to cut down or give up gambling activities		Worried and/or tried to cut down	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		318 (2077)	15.3 12.0 - 18.5	293 (2069)	14.1 11.0 - 17.3	425 (2027)	20.9 16.7 - 25.1
By Sex	Male	201 (1032)	19.3 15.5 - 23.2	179 (1035)	17.2 13.4 - 21.1	264 (1013)	25.9 20.9 - 30.9
	Female	116 (1044)	11.1 7.7 - 14.6	113 (1033)	11.0 7.2 - 14.7	160 (1013)	15.8 11.2 - 20.4
By Age	13 and under	99 (450)	21.9 17.4 - 26.4	95 (442)	21.3 16.3 - 26.2	129 (427)	29.9 24.7 - 35.2
	14	76 (445)	17.1 12.3 - 21.8	79 (448)	17.8 12.7 - 22.8	106 (438)	24.2 17.9 - 30.5
	15	46 (415)	11.1 6.8 - 15.4	34 (413)	8.3 4.3 - 12.2	57 (405)	14.1 8.6 - 19.5
	16	54 (395)	13.5 9.5 - 17.6	52 (395)	13.0 8.9 - 17.2	78 (389)	19.9 14.3 - 25.4
	17 and over	43 (368)	11.8 7.7 - 15.8	33 (367)	9.1 5.3 - 12.9	55 (364)	15.2 10.4 - 20.0
By Ethnicity	NZ European	59 (972)	6.0 4.4 - 7.7	57 (972)	5.9 4.1 - 7.7	86 (958)	8.9 6.8 - 11.0
	Māori	78 (436)	17.6 13.8 - 21.4	64 (428)	14.8 11.1 - 18.5	100 (417)	23.7 18.8 - 28.5
	Pacific	111 (308)	36.0 28.9 - 43.1	111 (307)	36.0 28.7 - 43.4	144 (297)	48.4 40.6 - 56.1
	Asian	57 (243)	23.6 17.4 - 29.9	48 (242)	19.9 14.7 - 25.1	76 (238)	32.1 25.6 - 38.6
	Other	13 (116)	10.9 6.0 - 15.9	13 (118)	11.0 5.2 - 16.9	19 (115)	16.2 9.3 - 23.2
By NZDep2006	Lower	45 (676)	6.6 4.6 - 8.7	42 (681)	6.2 4.0 - 8.4	64 (671)	9.5 7.1 - 11.9
	Medium	86 (726)	11.8 9.3 - 14.4	76 (721)	10.5 7.7 - 13.4	115 (707)	16.2 12.9 - 19.5
	Higher	180 (649)	27.7 22.0 - 33.4	168 (643)	26.2 20.5 - 31.8	237 (625)	37.9 30.9 - 45.0
By Geography	Urban	282 (1723)	16.4 12.6 - 20.1	265 (1723)	15.4 11.8 - 19.0	378 (1684)	22.4 17.7 - 27.2
	Rural	29 (328)	8.4 5.6 - 11.2	21 (322)	6.3 3.4 - 9.1	38 (319)	11.2 8.1 - 14.4

Appendix L If you had problems or concerns about your gambling, who would you go to for help? (among students who have gambled in last 12 months)

		School guidance counsellor		Friends		Teachers		Parents		Other family members		School nurse		Family doctor		Gambling helpline		Pharmacy/chemist		Other		I wouldn't look for help	
		n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI	n (N)	% 95% CI
Total		569 (2012)	28.5 25.7 - 31.2	1002 (2012)	49.9 47.6 - 52.1	233 (2012)	11.6 10.0 - 13.1	1149 (2012)	57.3 54.8 - 59.9	413 (2012)	20.7 18.7 - 22.6	101 (2012)	5.1 3.9 - 6.3	134 (2012)	6.7 5.5 - 7.9	397 (2012)	19.8 17.6 - 22.1	37 (2012)	1.9 1.2 - 2.5	161 (2012)	8.0 6.7 - 9.3	345 (2012)	17.1 15.3 - 18.8
By Sex	Male	269 (999)	27.2 23.3 - 31.0	451 (999)	45.3 42.2 - 48.5	141 (999)	14.1 12.0 - 16.2	575 (999)	57.9 54.3 - 61.4	207 (999)	20.9 18.0 - 23.8	44 (999)	4.5 3.0 - 6.0	68 (999)	6.9 5.4 - 8.4	174 (999)	17.6 15.1 - 20.1	20 (999)	2.0 1.2 - 2.8	91 (999)	9.1 7.1 - 11.1	183 (999)	18.2 15.6 - 20.7
	Female	300 (1012)	29.8 26.0 - 33.6	551 (1012)	54.4 51.4 - 57.4	92 (1012)	9.1 7.2 - 11.1	574 (1012)	56.8 53.5 - 60.1	206 (1012)	20.4 17.8 - 23.0	57 (1012)	5.7 3.9 - 7.5	66 (1012)	6.6 4.8 - 8.3	222 (1012)	22.0 18.9 - 25.1	17 (1012)	1.7 0.7 - 2.7	70 (1012)	6.9 5.1 - 8.7	162 (1012)	16.0 13.4 - 18.6
By Age	13 and under	133 (431)	31.0 26.5 - 35.4	208 (431)	48.1 43.5 - 52.6	76 (431)	17.7 14.9 - 20.4	272 (431)	63.3 58.6 - 68.1	95 (431)	22.1 18.6 - 25.7	22 (431)	5.2 3.1 - 7.2	30 (431)	7.1 4.4 - 9.7	74 (431)	17.0 12.8 - 21.2	14 (431)	3.3 1.4 - 5.2	45 (431)	10.5 7.1 - 14.0	53 (431)	12.3 8.7 - 15.9
	14	135 (432)	31.5 26.1 - 36.9	215 (432)	50.0 45.1 - 54.9	56 (432)	12.9 9.1 - 16.7	255 (432)	59.2 53.9 - 64.6	97 (432)	22.6 19.1 - 26.1	20 (432)	4.7 2.7 - 6.7	31 (432)	7.2 4.1 - 10.2	73 (432)	17.0 13.3 - 20.7	6 (432)	1.4 0.0 - 2.9	31 (432)	7.2 4.7 - 9.6	79 (432)	18.0 14.8 - 21.3
	15	114 (398)	28.8 24.0 - 33.5	203 (398)	51.0 46.4 - 55.5	44 (398)	11.1 8.4 - 13.7	220 (398)	55.5 50.2 - 60.7	88 (398)	22.2 17.8 - 26.6	27 (398)	6.8 4.1 - 9.4	33 (398)	8.3 5.3 - 11.3	84 (398)	21.2 17.2 - 25.2	9 (398)	2.3 0.9 - 3.6	30 (398)	7.5 4.8 - 10.3	71 (398)	17.8 14.0 - 21.6
	16	98 (384)	25.8 21.4 - 30.2	192 (384)	50.3 45.7 - 55.0	35 (384)	9.2 6.1 - 12.3	210 (384)	55.0 49.4 - 60.6	70 (384)	18.5 14.5 - 22.4	18 (384)	4.9 2.3 - 7.4	23 (384)	6.1 3.5 - 8.6	67 (384)	17.7 13.7 - 21.7	few or none	–	25 (384)	6.3 4.1 - 8.6	75 (384)	19.4 14.8 - 24.0
	17 and over	87 (363)	24.2 19.3 - 29.1	182 (363)	50.1 44.4 - 55.8	22 (363)	6.1 3.5 - 8.6	190 (363)	52.5 47.2 - 57.7	63 (363)	17.4 13.6 - 21.2	14 (363)	3.9 1.6 - 6.3	17 (363)	4.7 2.5 - 7.0	99 (363)	27.5 22.5 - 32.5	few or none	–	30 (363)	8.3 5.1 - 11.6	65 (363)	18.0 14.7 - 21.3
By NZDep2006	Lower	196 (674)	29.2 24.9 - 33.5	338 (674)	50.2 46.0 - 54.4	62 (674)	9.2 7.0 - 11.5	406 (674)	60.4 56.1 - 64.7	136 (674)	20.3 17.4 - 23.2	30 (674)	4.5 2.8 - 6.2	44 (674)	6.6 4.6 - 8.5	163 (674)	24.3 21.0 - 27.6	17 (674)	2.5 1.4 - 3.7	38 (674)	5.6 3.9 - 7.4	112 (674)	16.4 13.3 - 19.5
	Medium	201 (705)	28.7 24.8 - 32.6	363 (705)	51.6 48.0 - 55.3	78 (705)	11.1 9.1 - 13.1	415 (705)	59.1 55.5 - 62.6	149 (705)	21.3 18.4 - 24.1	40 (705)	5.8 3.9 - 7.7	53 (705)	7.6 5.5 - 9.7	147 (705)	20.9 17.8 - 23.9	15 (705)	2.1 1.0 - 3.3	58 (705)	8.2 6.1 - 10.3	131 (705)	18.6 15.9 - 21.3
	Higher	167 (610)	27.7 24.1 - 31.3	289 (610)	47.4 43.6 - 51.2	91 (610)	14.8 12.2 - 17.5	319 (610)	52.5 48.8 - 56.3	124 (610)	20.5 16.7 - 24.4	29 (610)	4.8 2.9 - 6.7	36 (610)	5.9 4.0 - 7.9	84 (610)	13.9 11.4 - 16.3	few or none	–	64 (610)	10.5 8.1 - 12.9	97 (610)	15.9 13.0 - 18.8
By Geography	Urban	484 (1674)	29.1 26.2 - 32.0	819 (1674)	49.0 46.8 - 51.1	196 (1674)	11.7 9.9 - 13.5	945 (1674)	56.5 53.9 - 59.2	344 (1674)	20.6 18.6 - 22.7	81 (1674)	4.9 3.6 - 6.2	108 (1674)	6.5 5.2 - 7.7	340 (1674)	20.4 17.9 - 22.9	31 (1674)	1.9 1.2 - 2.5	136 (1674)	8.2 6.8 - 9.6	289 (1674)	17.2 15.5 - 19.0
	Rural	80 (315)	25.8 20.5 - 31.2	171 (315)	54.6 49.0 - 60.3	35 (315)	11.1 8.0 - 14.2	195 (315)	62.8 56.9 - 68.8	65 (315)	21.2 16.0 - 26.4	18 (315)	5.8 3.1 - 8.5	25 (315)	8.1 4.9 - 11.3	54 (315)	17.2 12.4 - 21.9	6 (315)	2.0 0.3 - 3.6	24 (315)	7.4 4.4 - 10.3	51 (315)	15.9 12.1 - 19.7